People & the Planet

IPPF, IUCN, UNFPA, WWF

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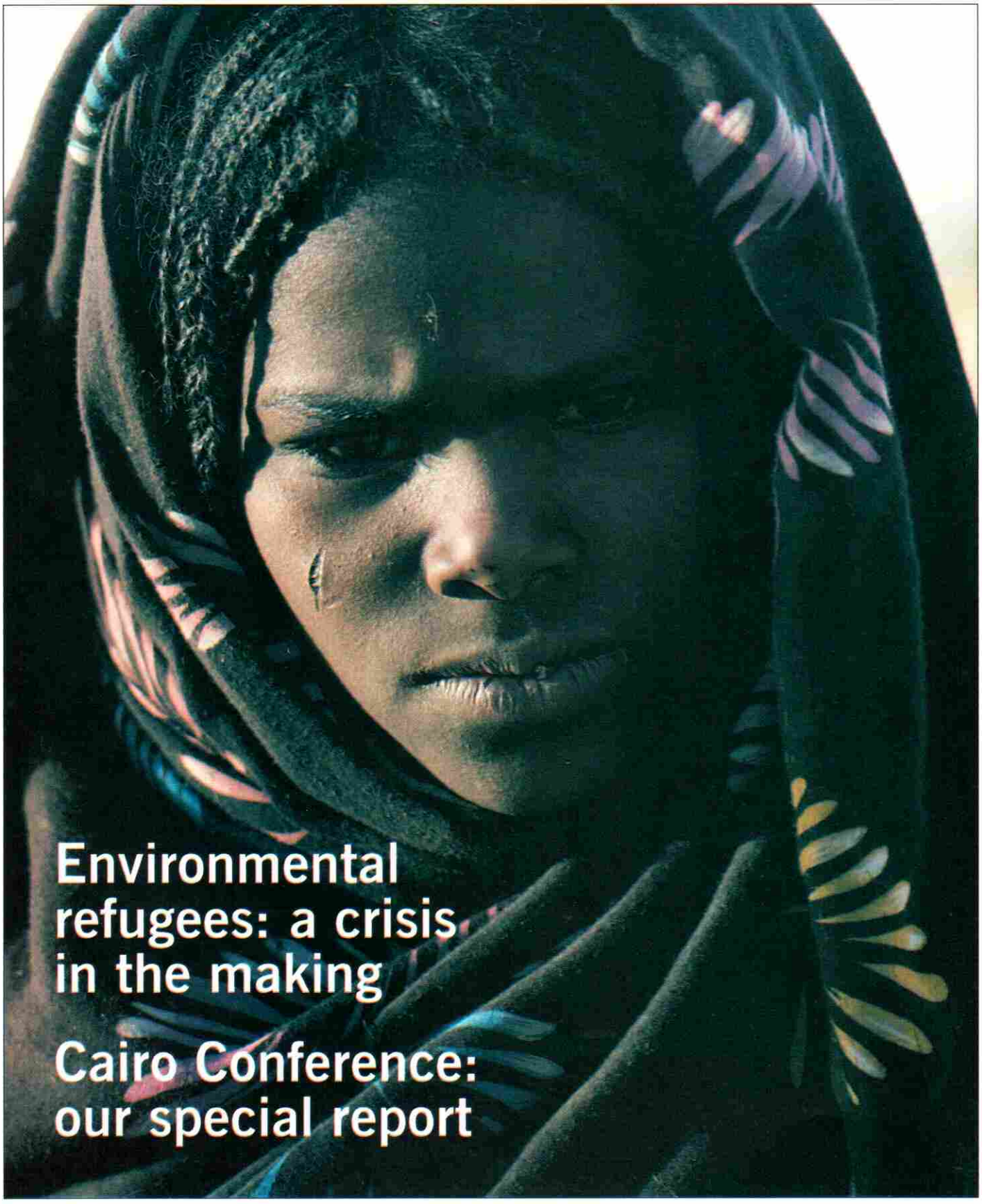

Environmental refugees: a crisis in the making

Cairo Conference: our special report

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People & the Planet

Cairo challenge

We report in this issue on a largely unreported phenomena: environmental refugees, or as some prefer 'eco-migrants'. According to new research instituted by the Climate Institute and detailed for the first time here, as many as 25 million people have been displaced from their homes by drought, desertification, soil erosion and other environmental causes. Norman Myers, who co-ordinates the research, believes that number could double by the year 2000 and, as global warming starts to make itself felt, could increase to some 200 million by 2050.

As with all such figures, it is difficult to imagine their human reality. For this reason, we have collected together a few personal stories of refugees from various damaged environments. Photographer Mark Edwards and anthropologist Catherine Maternowska spent time in the terrible Cité Soleil slum in Haiti to share the sadness and bravery of peasants who no longer have soil or water to gain a living from. Don Hinrichsen returned to Chernobyl to hear how the displaced people of a poisoned land are faring. And Bishakha Datta went to Narmada to report on the life of one family in the path of a massive dam.

Though migration figured in the Cairo Conference on Population and Development, which we also report here, it gained only passing attention. The subject of environmentally-displaced people is mentioned in a section of the Programme of Action relating to internal migration. But that is all. Like so many other important issues, which link population, development and environment, it seems that another opportunity will have to be found to discuss them. One day a serious attempt will have to be made to consider how we are to feed a world of 10 billion, how finite water supplies are to be shared out in 2025 when 90 countries are expected to face shortages, how China and India can grow and industrialize without adding enormously to the burden of greenhouse gases, and how the United States can add 120 million people to its population by 2050 without putting immense additional pressure on the earth's resources. The conference did call for more research into, and communication about, such inter-linked issues. Let's hope it is heard for, as Norman Myers says, understanding is probably the resource in shortest supply.

John Rowley

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NEWS FILE

Australia boosts population aid

Following an independent enquiry into the relationship between population growth and development, the Australian Government has not only restored $30 million to its $130 million budget for population activities in developing countries, particularly in South East Asia, but has made an additional $82 million available for this purpose.

As reported in *People & the Planet* Vol 3 No 1, the freeze on funds was made in October 1993 under pressure from Senator Brian Harradine who argued that reducing population growth would not aid development.

Professor Dennis Ahlburg, an Australian population economist at the University of Minnesota, headed the team of eight leading academics who undertook the enquiry.

The team produced nine chapters of 400 pages looking at the links between high population growth and economic development, education, environment, poverty, housing, food and health, as well as evaluation of population programmes and the relationship with human rights.

In summary, the report argues that although there is evidence of both positive and negative consequences of high population growth rates, the vast majority are negative. This is particularly true in the areas of health, economic development, food, housing and the environment.

The report shows that family planning programmes, introduced in a culturally sensitive way and with high levels of quality care could have a major impact on population growth rates. While there may be other interventions which could have a major impact in each of the areas of development mentioned, the report concluded that family planning programmes were a relatively low cost intervention which could have an indirect effect in all of the areas of development.

The Australia Government decided to release the extra funding with the proviso that family planning programmes should satisfy nine criteria set out in the report.

A sanctuary for whales

The decision at the May meeting of the International Whaling Commission (IWC) to establish a vast circumpolar whale sanctuary all around Antarctica effectively ends any possibility of the resumption of large-scale whaling anywhere in the world, *writes Cassandra Phillips, WWF Antarctica and Cetacean Officer.*

Cutting up a minke whale on a Norwegian ship.

The ocean area now prohibited to the whalers now includes the entire Indian Ocean, which has been an IWC sanctuary since 1979, and the Southern Ocean south of 40° South, except for a section south of South America where the sanctuary boundary is at 60° South.

Even if the current indefinite IWC moratorium on all commercial whaling worldwide were ever to be lifted, all the eight southern hemisphere great whale species would remain protected. This includes the southern hemisphere minke whale, the last of the great whales to remain anywhere near their original numbers. All the rest have been so drastically depleted by the whaling industry in the past 80 years that the biomass of baleen whales feeding each summer in the Southern Ocean is now estimated at less than 6 per cent of its pre-whaling level.

Japan kills 300 whales a year in the Antarctica for scientific research purposes. The sanctuary cannot prevent this whaling continuing, but with no prospect of full-scale commercial whaling ever resuming there, it is unlikely that the research will keep its government subsidy for long. The question of policing the sanctuary remains. However, since any large amounts of whale meat appearing in the markets would by definition be illegal, if any pirate whaling started in the sanctuary it should be easily detected.

In practice, the sanctuary is the only way to ensure the survival of the last abundant whale species, and the gradual recovery of the natural equilibrium of the whole Southern Ocean ecosystem. It is a highly significant victory for conservation.

■ As we went to Press, WWF issued a warning that the Russian Fisheries Department was attempting to withdraw support for the sanctuary. WWF has asked President Yeltsin "to ensure that his country does not have a catastrophic change of mind."

Going organic

The Swedish Parliament has called for a government programme to convert 10 per cent of the country's farmland to organic agriculture by the year 2000. At present, organic agriculture accounts for 2 per cent of production.

According to a report in *Ecology and Farming* magazine, this decision is seen as a resounding success by the strong organic lobby comprised of traders and other interest groups which formed the '10 per cent campaign' one year ago.

The Swedish Parliament backed-up its commitment to the campaign by providing 2,000,000 SEK (US$260,000) to provide information on organic agriculture. The Government already allocates 5,000,000 SEK annually to help market organic produce.

■ *Contact: KRAV, Brogarden, Jalla, S-75594 Uppsala, Sweden.*

'Grain crisis coming'

Over the next 40 years, the world will face massive grain deficits in Africa, the Indian sub-continent, and China if populations grow as projected, according to a new study by the Washington-based Worldwatch Institute.

According to a new book, ***Full House: Reassessing the Earth's Population Carrying Capacity***, by Lester Brown and Hal Kane, the projected import deficits will dwarf exportable supplies, setting up fierce competition among

MORGAN/GREENPEACE

importing countries and driving up world grain prices.

Population growth is potentially overwhelming, it says, for developing countries such as Nigeria which is projected to add 191 million in the next four decades to 2030, compared to 55 million in the period from 1950 to 1990. Other countries such as Ethiopia and Pakistan will add three times as many in the next four decades as in the last four, and Bangladesh and Egypt will add twice as many.

But it is rapidly industrializing China, with a projected increase of 490 million people and a declining area of grainland, which may cause the biggest crunch. The authors calculate that declining harvests and growing population could lead to a grain deficit of 216 million tons by 2030 – more than total world grain exports today. If the effect of rising incomes on grain consumption is taken into account, the deficit could be 378 million tons.

The authors add that the Chinese themselves are apparently making similar calculations. They quote Professor Zhou Guangzhao, head of the Chinese Academy of Sciences who observed that if the nation continues to squander its farmland and water resources in its breakneck effort to industrialize "then China will have to import 400 million tons of grain from the world market. And I am afraid in that case, that all the grain output of the United States could not meet China's needs."

■ Full House *is published by W W Norton at $8.95.*

Wastes exports banned

The export of hazardous wastes from OECD to non-OECD countries for final disposal is now prohibited under the Basel Convention of May 1994. A further ban which will prevent the export of hazardous wastes for recycling will come into effect on 1 January 1998.

The Convention was hailed as a "historic victory for global environmental justice" by Kevin Stairs who led Greenpeace's lobbying effort. "At last the loophole of being able to export waste under guise of recycling will be eliminated. This will force rich countries to take full responsibility for their waste production problem."

Although satisfaction at the agreement was expressed by various environmental NGOs and delegates, there is still concern that some OECD governments are attempting to by-pass the Basel ban.

According to Greenpeace campaigner Kate Rankaine, some OECD countries, in particular the United Kingdom, are attempting to weaken the current definition of what constitutes hazardous waste by redefining anything

CHARLES SECRETT/STILL PICTURES

Toxic waste dump in Koko, Nigeria - part of a growing problem.

that is recyclable as a non-waste product.

Greenpeace claims that recycling such wastes can produce toxic emissions which inevitable end up in the environment of the importing countries. For example, it is possible to recycle car batteries for some of the lead. However, this recycling process is highly polluting in itself as sulphuric acid residues in the battery, result in emissions of this contaminant into the atmosphere.

The European 'Wastes Shipments' Regulation is the legal instrument which will implement the Basel Convention into EU law. At present, however, the Regulation does not mirror the Convention provisions. What is worrying is that the Regulation allows certain wastes to be traded freely.

Greenpeace is now calling for the Regulation to be brought in line with the comprehensive Basel provisions to prevent highly toxic wastes falling outside the control of the Convention.

Food security

A strong case for urgently reversing the present decline in international agricultural research and development is made in a new report by the World Bank-sponsored Action Group on Food Security.

The demand for food is projected to more than double by 2025 and to rise by at least another 50 per cent by 2050, due to population growth and increases in consumption as per capita incomes rise. Given the limits on agricultural expansion, the high cost of food imports and unlikely increases in food aid, the only hope for many developing countries is to raise crop yields and improve farm management without further endangering soil quality and water supplies. The goal should be to combine agronomic and ecological principles in an analytical framework for improving agricultural efficiency while protecting the natural resource base and maintaining biodiversity.

Yet support for agricultural research has declined substantially in real terms. The Consultative Group on International Agricultural Research (CGIAR), set up in 1972 by the World Bank, the United Nations Development Programme and the Food and Agriculture Organization to finance and manage a global network of research centres, is in serious financial trouble as a result of static or declining donor commitment.

Technological breakthroughs like the Green Revolution are urgently needed, the report says. At the International Rice Research Institute in the Philippines, for instance, the development of an irrigated rice plant that could raise yield potential by 50 per cent is in danger of being set back by funding cuts.

The report makes a series of recommendations for restructuring the CGIAR, giving it the financial security to attract and retain the scientific skills that are required and expanding its role in strengthening the capacity of research centres in developing countries.

■ Feeding 10 Billion People in 2050: The Key Role of the CGIAR's International Agricultural Research Centers. *Committee on Agricultural Sustainability for Developing Countries, Washington, DC.*

Saving tribals

Survival International, a unique movement campaigning against the exploitation of indigenous peoples, this year celebrates 25 years of growth and influence.

It has successfully taken on the multinational giants in several developing countries and sought to raise public awareness that tribal peoples are not an anachronism in the modern world but a source of much wisdom and experience of alternative lifestyles.

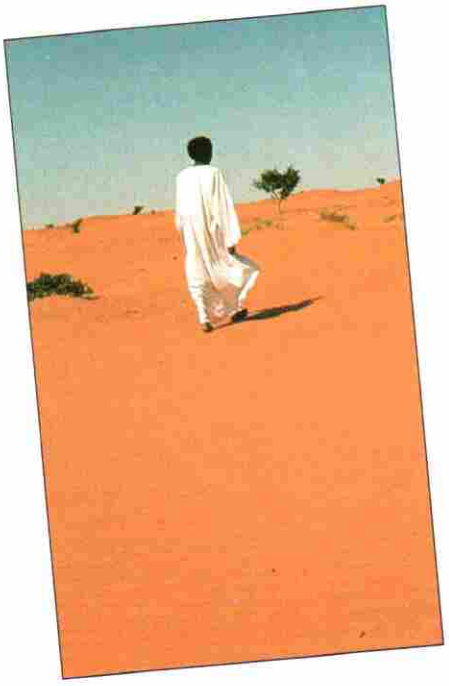
With members in more than 75 countries and offices in France, Italy, Spain and the United Kingdom, Survival has prevented the building of dams in India and Guyana, preserved forest homes in Indonesia, prevented logging on tribal lands in Siberia and persuaded the Brazilian government to create a park for the Yanomami tribe in Amazonia, thus safeguarding the lives of thousands of people.

In an effort to dispel public ignorance of tribal peoples, Survival researches the origins of their societies, their traditions and beliefs and the threats that today exist to their ways of life. Its latest report describes the Hopi who live in the southwest United States, and the Arhuaco, in the Sierra Nevada mountains of Colombia. Both tribes have suffered centuries of brutality and today their very survival is under threat because of exploitation of their natural resources, most significantly, water supplies and land.

■ Guardians of the sacred land. *Published in English, French, Italian and Spanish by Survival International. 310 Edgware Road, London W2 1DY.*

Eco-refugees: a crisis in the making

One year ago, the Climate Institute in Washington, DC undertook a three-year research programme on 'environmental refugees' – whose numbers may increase alarmingly with the projected global warming of the planet and other environmental pressures. Contributing editor *Norman Myers* is heading the project. Here he reports on some of the key findings so far and on the results of some of the regional research.



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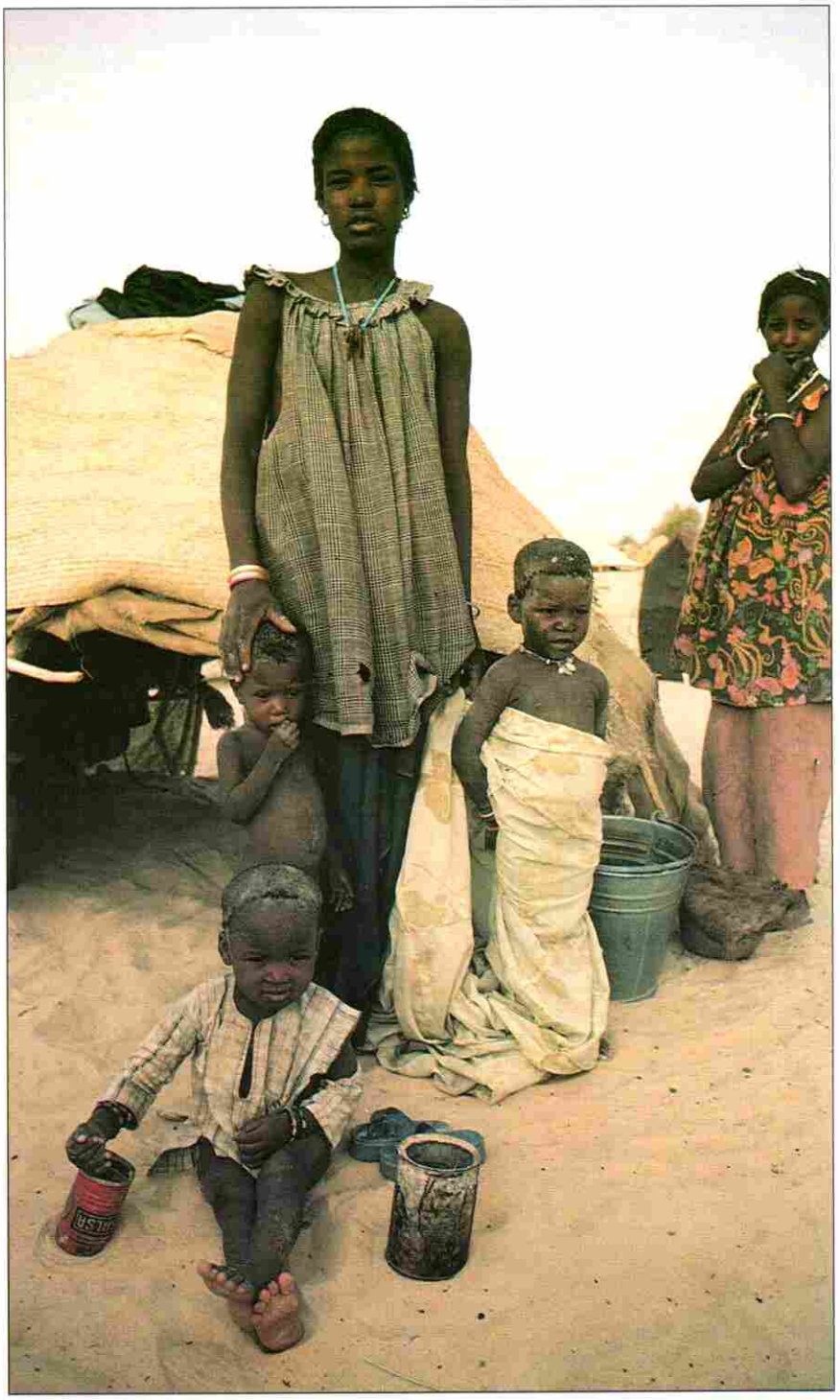


JEREMY HARTLEY/PANOS PICTURES

We increasingly hear about environmental refugees. They are people who can no longer gain a secure livelihood in their homelands because of drought, soil erosion, desertification and other environmental problems, aggravated by pressures of population and poverty. In their desperation, they

feel they have no alternative but to seek sanctuary elsewhere, however hazardous the attempt. Not all of them have fled their countries, many being "internally displaced". But all have abandoned their homelands with little hope of a foreseeable return.

There are at least 10 million environmental refugees today, to be compared with 18 million officially recognized refugees (political, religious, ethnic) combined. The figure of 10 million is certainly an under-estimate, since many governments take little formal account of this unconventional category of refugees. It is these unconventional refugees that have shown most increase in recent years, until they may now number more than 25 million (10 million recognized, 15 million unrecognized), out of all refugees totalling 43 million. We can fairly assume, moreover, that the total is likely to swell rapidly as burgeoning numbers of impoverished people press ever harder on over-loaded environments.

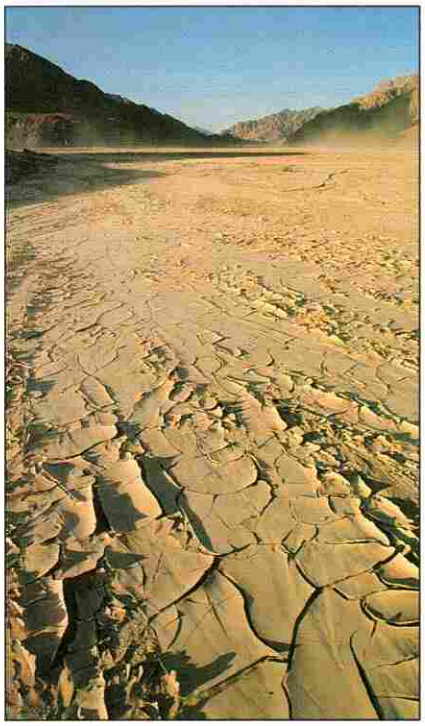
It is often difficult, however, to differentiate between refugees driven by environmental factors and those impelled by economic problems. In certain instances, and especially as concerns cross-border refugees, people with moderate though tolerable economic circumstances at home feel drawn by opportunity for a better economic life elsewhere. They are not so much pushed by environmental destitution as pulled by economic promise. This ostensibly applies to many Hispanics heading for the United States. But those people who migrate because they suffer outright poverty are frequently driven by root factors of environmental degradation. Indeed it is their environmental plight as much as any other factor that makes them impoverished.

This generally applies to those refugees who migrate to another part of their own country or to a neighbouring country where economic conditions are little if any better than back home, as is the case with many people who migrate within Sub-Saharan Africa and the Indian sub-continent. In this instance, with poverty and "life on the environmental limits" as the main motivating force, it surely matters little to the migrants whether they view themselves primarily as environmental or as economic refugees.

Of the aggregate total of 43 million of all types, three out of five being environmental refugees, 20 million are in Sub-Saharan Africa. Slightly over half the total are displaced within their own countries. Well over 30 countries have generated more than 100,000 refugees each. Of these, 15 countries have generated at least one million refugees each or have a population where one person in ten is a refugee. Alternatively stated, almost one person in 200 worldwide is an environmental refugee. If a proportionate number of people in the United Kingdom were to become environmental refugees, they would total 254,000; and in the United States, 1.1 million. Each day roughly 5,000 people find themselves obliged to abandon their homelands for environmental reasons. All these figures are expected to climb rapidly.

This makes for a quite unprecedented phenomenon. During the 1890–1910 peak of the migrant influx into the United States – that being the largest (and voluntary) mass movement of people before the present era – there was an average annual total of immigrants numbering just over 900,000 people. Today at least half a million people feel obliged to become cross-border refugees of one unrecognized sort and another, the majority being driven by environmental factors as a principal cause; and another 1.5 million people find themselves internally displaced, many of them for environmental reasons. So today's annual total of environmental refugees could be almost two million. Both of these categories are growing rapidly. By 1920, immigrants amounted to 1 per cent of the American populace. In Malawi

JEREMY HARTLEY/PANOS PICTURES



CHRIS STOWERS/PANOS PICTURES JEREMY HARTLEY/PANOS PICTURES

Facing page, left: *Village schoolteacher walks on sand covering former fertile soil, Sudan.* **Right:** *Refugees from the drought, Mali.*
Top: *Dugout canoes lying next to dried-up Lake Fitri, Chad.*
Above: *A Tuareg family fleeing from drought.*
Left: *Dried-up river bed in Egypt's Sinai Desert.*

Left: *Nyamithuthu Refugee Camp, home to thousands of displaced Mozambicans and now the third largest town in Malawi.*
Far right: *A typical farming family in Rwanda - before the troubles.*
Right: *Sand encroaches a traditional 'bilala' village in Chad. There was no sand around the village two years ago.*

TRYGVE BOLSTAD/PANOS PICTURES

today, by contrast, one person in nine is a refugee, totalling over one million.

Already the issue of environmental refugees is becoming prominent in the global arena. In the future, however, it could become one of the biggest crises to assail humankind. Due to increasing populations and declining environments, the present total of roughly 25 million environmental refugees could readily swell to 50 million by the year 2000 or shortly thereafter. When global warming starts to make itself felt, the ultimate total could surge to several times as many. Whereas the present 25 million environmental refugees make up 0.4 per cent of the world's population, a total of, say, 200 million in the year 2050 would amount to a full 2 per cent of the 10 billion people expected to be on Earth.

To reiterate, such multitudes of people on the move will constitute a unique experience in humankind's course. True, people have migrated in large numbers and proportions in the past. During the middle of last century, two-fifths of Irish people surviving the potato famine left their country; and during the final few decades of last century, one third of people in Sweden and Norway headed for new horizons because there was insufficient farmland to support their growing numbers.

But the present era is altogether different, and environmental problems ahead could swiftly match all those of previous centuries combined. Countries such as Philippines, Ivory Coast and Mexico can lose the bulk of their forests within half a human lifetime. Countries such as Ethiopia, Nepal and El Salvador can lose much if not most of their farmland topsoil within just a few decades. Countries such as Jordan, Egypt and Pakistan can find themselves suddenly suffering acute deficits of water. Countries such as Philippines, Kenya and Costa Rica can, in the wake of ultra-rapid population growth, switch from land abundance to land shortage almost overnight. Whole regions can find their protective ozone layer is critically depleted within a single generation. The entire Earth seems set to experience the rigours of global warming in what is, comparatively speaking, super-short order.

At the same time that the refugee problem has become far more pressing than ever before, our support efforts are not measuring up to the challenge. On every side there is mounting evidence that the surge in refugee numbers is far outpacing the ability of the world community to respond. In fact, measures to relieve their plight have drastically diminished in relation to the growing scale of the problem. The annual budget of the United Nations High Commissioner for Refugees (UNHCR) has recently been increased to $1 billion, yet government costs to assist asylum seekers (a small part of the problem overall) has long surpassed $5 billion per year – a sum that, significantly enough, is equal to a full one tenth of all overseas aid. As a result, UNCHR is quite unable to meet the present demand for food and shelter, much less to invest in repatriation or rehabilitation of refugees.

In short, the 3,500-year-old tradition of affording succour to refugees is close to breakdown. True, many citizens still respond generously as individuals to the plight of destitutes among other refugees, as witness the remarkable performance of the Live Aid effort – though that was a case of supporting people far away. When it comes to helping people seeking sanctuary in rich-world lands, society increasingly slams the door.

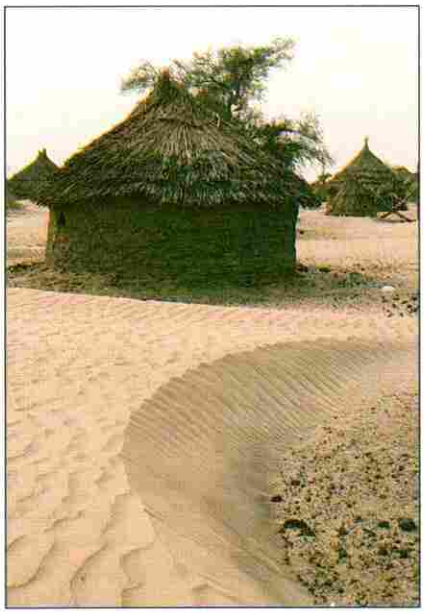
Yet if the problem is not dealt with in the short term, it will become far more severe and costly in the long term. Host countries will be increasingly unable to accommodate fast-growing throngs of refugees who will breach national borders wholesale. However much countries may wish to seal themselves off from refugees, they will find they cannot do so. It has proven impossible for the United States to contain the movement northwards of Mexicans and other Hispanics across the long southern frontier. In Europe, front-line countries, notably Spain, Italy and Greece, are showing themselves to be largely powerless to keep out increasing numbers of migrants from across the Mediterranean.

There will be other problems. Refugees often come from a home environment different from that in which they seek sanctuary. They bring alien customs, dietary preferences and religious practices. They tend to congregate in destitute sections of such megacities as Dhaka, Calcutta, Karachi, Lagos, São Paulo, Lima and Mexico City. In these localities, they depend on city services that are already over-loaded. Or they are obliged to crowd into refugee camps with grossly inadequate subsistence conditions. Resettlement of refugees is never easy and assimilation is rare. All in all, it is hardly surprising that some refugees have become the unwitting victims of social discord, economic dislocation and political conflict in host countries.

The fact is that few countries have yet to mobilize the institutional structures and support resources to cope with the fast-gathering crisis. Ironically the world's refugee burden is carried

overwhelmingly by the poorest sectors of the global community. The 20 countries with the highest ratios of refugees have an annual per-capita income of $700. Mozambique's neighbours have scant means to support people fleeing from drought and agricultural failure, both problems exacerbated by civil war. In Malawi, which has supplied sanctuary to 800,000 Mozambicans and is among the dozen poorest countries on earth with a per-capita GNP of $230, one person in nine is a refugee.

In sum, environmental refugees could become one of the foremost human crises of our times. Thus far they have been viewed as a peripheral concern, a kind of aberration from the



JEREMY HARTLEY/PANOS PICTURES

normal order of things. In the world of the future, they are likely to become a prominent feature of our One Earth landscape. The phenomenon is an outward manifestation of profound change – a manifestation often marked by extreme deprivation, fear and despair. While it derives from environmental problems, it is equally a crisis of social, political and economic sorts: a reflection of the inability of our institutional systems to reflect change of a deep-seated and even unique type. As such, the crisis could readily become a cause of turmoil and confrontation, leading to conflict and violence. By far the best way to deal with the problem is to pre-empt it: to recognize it, to comprehend it, and to respond by tackling the sources of the problem instead of reacting to its symptoms. The key to this difficult prospect is understanding, probably the resource in shortest supply right now. ■

Land pressure adds to Rwanda conflict

JENNY MATTHEWS/NETWORK

The hundreds of thousands of Rwandans who poured into Tanzania and Zaire earlier this year are not strictly speaking environmental refugees, but population pressure on the land has undoubtedly been a factor in the country's inter-ethnic conflict which caused their flight.

The population density on the available land is as high as 560 persons per km^2 in Rwanda's Ruhengeri Prefecture, and 405 for Rwanda as a whole, and these are rural, not urban densities. Fragmentation of land holdings has meant that families (which may mean as many as eight persons) in Gisenyi and Cyangugu Prefectures, even 10 years ago, were living off plots as small as 0.13 hectare (approximately 30 by 40 metres).

Overcrowding of this degree inevitably creates physiological stress which can only make political conflicts more difficult to resolve. And the high rate of population increase can only make matters worse in the future. According to calculations by the Futures Group, the number of persons per cultivable hectare will almost certainly rise from 6.2 in 1990 to 9.1 by 2000 and 12.6 by 2010.

In the absence of high technology inputs, population pressure generally results in higher use of marginal land and the cultivation of steep slopes, decreased periods of fallow, and the conversion of pastureland and forest into cropland, all of which are likely to lead to soil erosion and reduced soil fertility in the long run. This is what has happened in Rwanda: between 1970 and 1986, cultivated land increased from 528,000 ha to 826,500 ha, but at the expense of fallow land, which nearly halved, and particularly of pastureland, the extent of which was reduced from 488,000 ha to 199,000 ha. This has particularly affected the minority Tutsi people, who are traditionally pastoralists.

People do modify their social behaviour under such pressures, and Rwandans have been marrying later and having smaller families. Young men have to wait longer to acquire the *rugo* – the small plot of land necessary for raising a family – and when they do have one they know they will have difficulty supporting the same number of children their parents had. The use of modern family planning has risen from 1 per cent in 1983 to around 13 per cent in 1992. The total fertility rate has fallen, from 8.5 children per woman in 1983 to 6.2 in 1992, and the female age of marriage has risen to 23 – the highest in Africa. But the evidence of stress and food shortage is all too clearly there: nearly half of all Rwandan children under five suffer from chronic malnutrition and growth stunting. ■

Jeremy Hamand

A Mediterranean Rio Grande

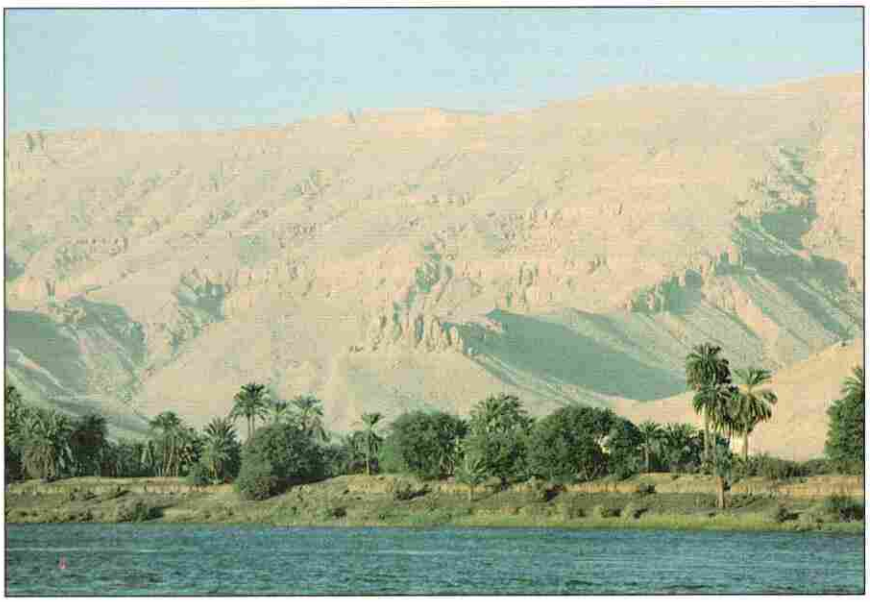
Hardly any country depends upon environmental resources as much as does Egypt upon its water. Of one million square kilometres of national territory, only 25,000 are cultivated, in a strip averaging 10 kilometres wide along the River Nile. These lands have to feed 59 million people today, with an average of only 0.5 of a hectare for an average rural family, the lowest for a major developing country. Virtually all these croplands are irrigated.

Because of water shortages and 'population longages', the country is increasingly unable to feed itself. For this reason alone, there may soon be sizeable numbers of environmental refugees in Egypt. These numbers are likely to swell still more when global warming causes sea level to rise: the Nile Delta is one of the most vulnerable as well as the most densely populated coastal areas in the world.

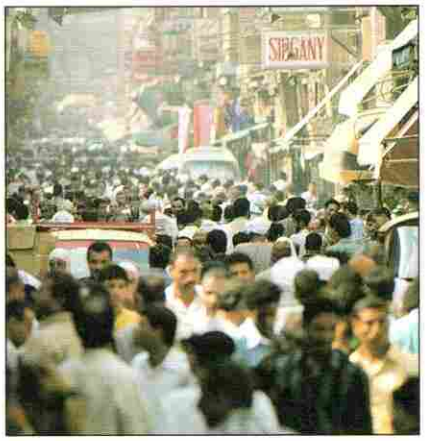
Egypt cannot grow even half its food, and every second loaf is baked with American grain. The country's capacity to buy food abroad depends upon the health of its economy, which has stagnated for most of the period since 1980 with an annual growth rate rarely reaching two per cent. During the 1990s, moreover, Egypt will have to create an annual average of 450,000 new jobs just to keep up with additions to the labour force, yet during the period 1976-86 the average total was no more than 220,000. Unemployed people tend to be hungry people. Fortunately some 2.5 million Egyptians find work in other Arab states.

What prospect, then, that Egypt can grow more food of its own? As far back as 1982, half of all irrigated croplands were suffering some degree of salinization, and all the rest were at risk. Today salinization, together with water logging, has reduced yields of major crops by 30 per cent – at a time when the population continues to expand by one million people every nine months.

Population planning has been stalling. Throughout the 1980s there was hardly any decline in the annual population growth rate, hovering around 2.8 per cent. Fortunately it has now declined to 2.3 per cent – still meaning a doubling time of only 30 years. With plenty of demographic momentum built into present growth patterns and trends, even a vigorous, all-encompassing population programme, could not show much result for best part of a generation. By 2010 the population is projected to total 81 million, by 2025 97 million, and by 2050 117 million.



MATTHEW KNEALE/PANOS PICTURES



GARY JOHN NORMAN/PANOS PICTURES

Egypt faces ever-growing water shortages. Given today's per-capita water use and projected population growth, total water demand will, within 20 years, exceed the country's allotted share of Nile water by nearly 60 per cent. In a greenhouse- affected world, moreover, drier conditions may well cause a one-fifth drop in Egypt's corn yield and a one-third drop in the wheat yield. At the same time and due again to global warming, the situation could be aggravated by a marked decline in the Nile River's flow.

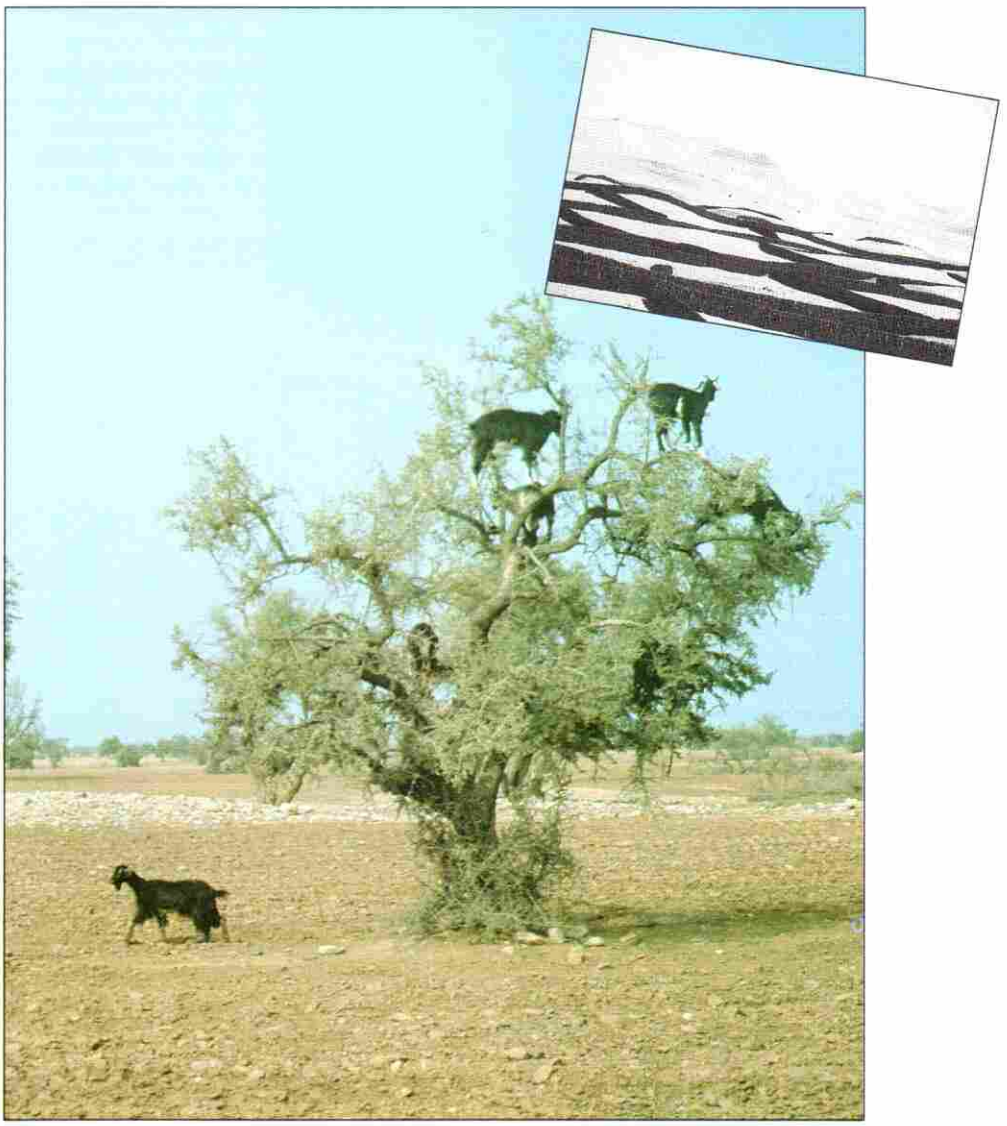
Food shortages are likely to be exacerbated still further by sea-level rise through permanent flooding of prime agricultural lands. At the same time, the area most affected by sea-level rise, the Nile delta, is experiencing rapid natural subsidence, aggravated by sediment starvation due to the Aswan High Dam upstream. The Delta constitutes two-thirds of Egypt's habitable land, and 3.2 million people and 70 per cent of Egypt's industry are located one metre below mean sea level in Alexandria.

Yet Egypt can expect almost one metre of sea-level rise through local subsidence and global warming by 2050. This would flood the Delta plain as far as 30 kilometres inland, and eliminate between 12 and 15 per cent of arable land containing 14 per cent of the country's present population, or 8 million people. Given that Egypt's population is projected to increase to 117 million by the year 2050 and supposing that population distribution remains the same as today, it is reasonable to anticipate that sea-level rise would displace more than 16 million people by 2050. This prognosis, moreover, is cautious and conservative. There would be additional problems such as intrusion of saltwater up the foreshortened Nile, which would further reduce irrigated lands.

Top left: *Global warming could reduce the flow of the Nile.*
Below left: *Cairo's population is growing fast.*
Below: *Goats forage in tree-tops, Morocco.*
Inset: *Barriers are used to hold back the desert, Algeria.*

SEAN SPRAGUE/PANOS PICTURES

HERBERT GIRARDET/STILL PICTURES



The other four countries of North Africa – Libya, Tunisia, Algeria and Morocco – are already the source of sizeable numbers of migrants toward Europe. True, most are attracted by the prospect of better economic opportunities in Europe, and the great bulk of them migrate voluntarily. So they hardly qualify as environmental refugees. Nonetheless there is an environmental component at work, in conjunction with pressures of population, landlessness and unemployment.

First, the population factor. The four countries comprise 70 million people. The total is projected to reach 92 million as early as 2010 (an increase of 31 per cent), and 112 million by 2025 (60 per cent). Tunisia has gone a fair way to reduce its population growth rate, now 1.9 per cent per year and one of the lowest in the Muslim world. But Morocco's is 2.3 per cent, Algeria is 2.5 per cent, and Libya's 3.4 per cent. Fortunately there is much scope to reduce fertility. The unmet need for family planning in Tunisia, for instance, is as much as 18 per cent.

Partly, if not largely because of population pressures, environments are declining in all countries. Morocco, Tunisia and Libya are each losing around 1,000 square kilometres a year to desertification. There are 3 million landless in Morocco and Tunisia. Rapid population growth has also aggravated problems of unemployment and underemployment. In Morocco, economically one of the more advanced countries with a per-capita GNP of over $1,000, these problems are officially recognized to involve 40 per cent of would-be workers, and the unofficial figure is reckoned to be a good deal higher. By 2010 the joint labour force of the four countries is expected to increase by almost 50 per cent. As a longer-term result, would-be emigrants looking toward Europe could surge to reach 25 or even 30 million during the next four decades. This all makes the Mediterranean axis the sharpest demographic and economic gradient in the world, more pronounced even than that of the Mexico and the United States, and making it a kind of 'Mediterranean Rio Grande'. Migration pressures are already intense and will surely increase steadily if not swiftly. Moroccans can readily make the 16-kilometre crossing of the Straits of Gibraltar, and Tunisians and others can do likewise across the Straits of Medina. Both crossings are far easier, for example, than that from Haiti to Florida by boat.

There are also severe problems of water shortages. In 1990 Morocco and Libya were only just above the 'chronic water scarcity' level of 1,000 m^3 per person per year, while Algeria had already fallen to 690 and Tunisia to 540 m^3. By 2025, Morocco is expected to have slipped to 590 m^3 and the other three countries to between 360 and 325 m^3 – even though the 500 level demarks absolute scarcity, with widespread and acute problems for agriculture, industry and domestic use.

Also in the longer term, the four countries could be at further risk through global warming if only because of decreasing soil moisture. For each increase in annual temperature of 1.5°C (the increase by 2030 is expected to be between 1.5° and 4.5°C), evapotranspiration could well increase by more than 10 per cent, leading (even with no decline in rainfall) to a decrease in river flow of more than 10 per cent, causing irrigable areas to contract and imposing acute constraints on industry and personal consumption. In short, North Africa could become far more thirsty than it is today. ■

Below: *Mangroves protecting a delta island in Bangladesh are felled to provide firewood.*
Right: *Flood victim, Ganges Delta, Bangladesh.*

Insets, above: *Widow digs in newly formed mudflats for mudfish.*
below: *Homeless children find refuge in a railway station.*

The threat from sea and land

Bangladesh and India share the great sweeping Bay of Bengal. In Bangladesh, a country little larger than England or New York State, live 117 million people, most of them in the countryside. The population is projected to reach 163 million in 2010, 196 million in 2025 and 239 million in 2050.

Although the annual growth rate in agricultural production has averaged over 2 per cent since 1980, the population growth rate has fallen only to 2.4 per cent today, meaning that per-capita grain output has been declining. Largely because of population growth too and because some farms are unduly big, well over half of all farms are now smaller than 0.4 of a hectare. By the time that global warming is likely to be established, Bangladesh may well have a population density four times that of the densest developed country, Netherlands, where nine people out of 10 live in urban areas.

More than four-fifths of Bangladesh amounts to an extended delta at the confluence of one of the largest river systems in the world, comprising the Ganges, Brahmaputra and Meghna Rivers. In the Brahmaputra watershed, the rate of deforestation-derived soil erosion in the Himalayas is five times as much as in the geologic past. This sediment loading is often considered to be a prime factor in downstream flooding. There has been a rapid increase in flood damage throughout most of Bangladesh during the last two decades. Half of domestic production is attributable to agriculture (in many developing countries the proportion is one-third or less), leaving the national economy all the more prone to flooding damage. In August 1987, flooding eliminated one quarter of the rice crop.

As a result of the combined impacts of population growth, poverty, landlessness and inadequate food supplies, there will surely be pressures for mass migrations into neighbouring areas of India. Whereas Bangladesh's population density is already more than 900 per km^2 and West Bengal's is over 750, Assam's is less than 300 and Tripura's less still. At the time of Bangladesh's independence in 1971, more than 10 million land-hungry and food-short people crossed the border into India.

PAUL HARRISON/STILL PICTURES

Although some of the migrants were impelled also by religious and political reasons, 'people pressure' on a limited land-resource base was a prime component of the migratory impulse.

Throughout Bangladesh's nationhood, there have been periodic further incursions into India's neighbouring states. In Assam, more than 7 million or one-third of the population are Bangladeshi immigrants; and in West Bengal there were around 10 million Bangladeshis as far back as the mid-1980s. Of these totals, only 2 million at most can be attributed to migration as a result of the 1971 war between India and Pakistan that created Bangladesh.

The Bay of Bengal is specially susceptible to cyclones. In recent years Bangladesh has been struck by cyclones at an average rate of 1.5 per year. The April 1991 cyclone, together with a six-metre high storm surge penetrating far inland, caused the death of at least 200,000 people (some observers estimated twice as many), while millions were left homeless. There are expected to be more and stronger cyclones as global warming approaches. Worse, most of Bangladesh is only five metres above sea level, leaving it especially vulnerable to sea-level rise.

Consider a sea-level rise scenario for Bangladesh in 2050, when the country is projected to have more than twice as many people as today. Sea-level rise through global warming will be aggravated by coastal subsidence. The outcome could prove critical for a country that ranks among the most impoverished on Earth, meaning it can deploy few resources – financial and engineering, for example – to resist natural disasters. Seven per cent of Bangladesh could permanently disappear beneath the waves, and a much larger area could be regularly overtaken by associated phenomena such as storm surges reaching 160 kilometres or more inland – two-fifths of the way from the coast to the main northern border. In April 1991, it was not so much a cyclone that killed 200,000 people, rather it was the in-rush of seawater that drowned them.

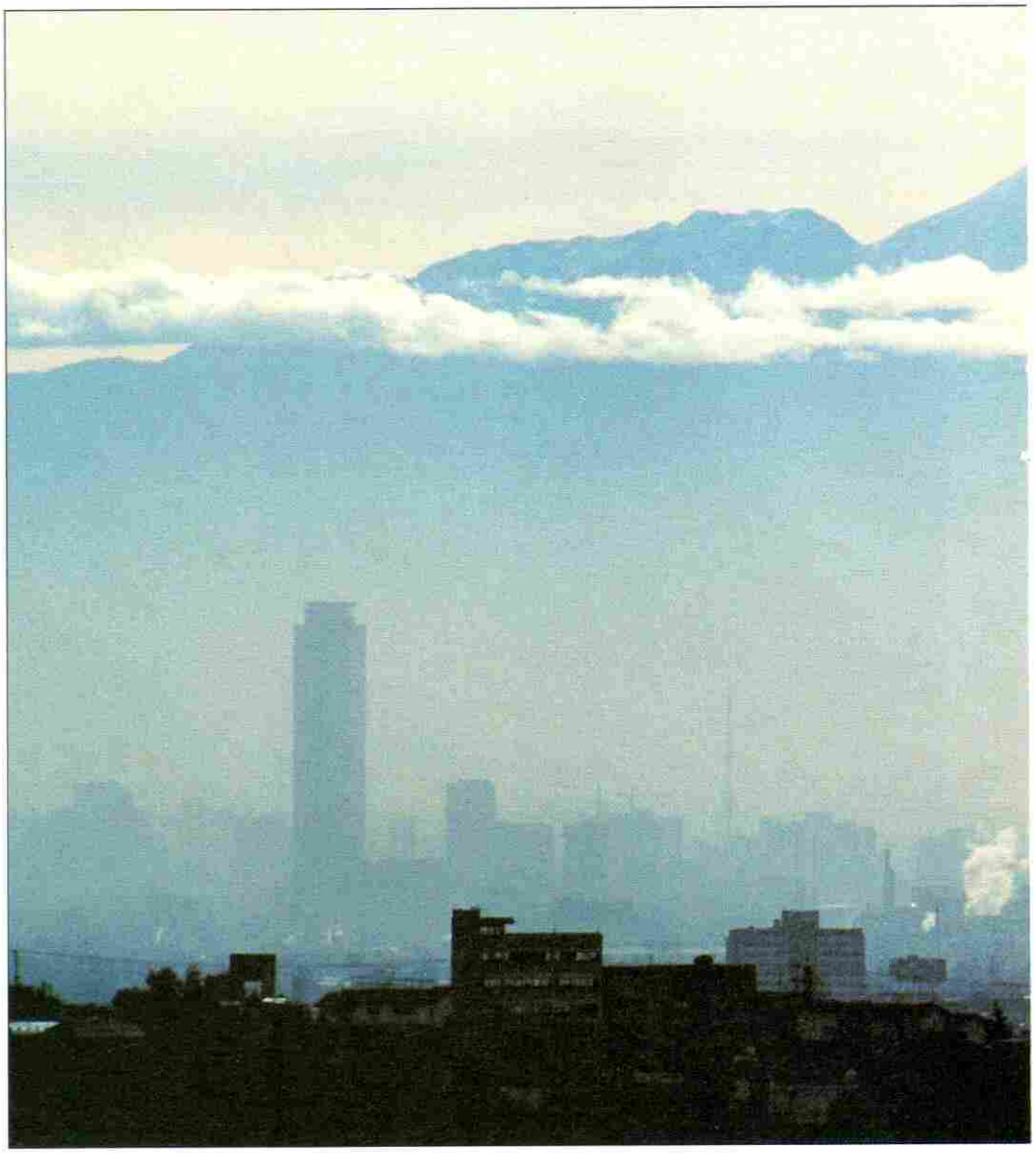
Taken together, the expected hazards would destroy homes and holdings in an area containing seven per cent of today's populace by 2050. If population distribution continues as today, the number of people affected in 2050 would be a projected 17 million. Even if the catastrophe could be partially contained through massive engineering works (long- term costs are estimated as high as $10 billion for a country with a present-day GNP of $26 billion), there would be further problems from knock-on effects in the form of backwater flooding in inland areas and acute congestion in the new coastal zones.

On top of all these problems stemming from the encroaching sea, there could also be trouble for Bangladesh from the opposite side of the country, the Himalayas. The three great rivers pouring into Bangladesh carry exceptionally swollen waters after the monsoon strikes the Himalayas. Their combined outflow is two and a half times that of the Mississippi, and surpassed only by that of the Amazon. In September 1988, river flooding left three-quarters of the country inundated, with 50 million people homeless and $1.5 billion worth of damage.

MARK EDWARDS/STILL PICTURES PAUL HARRISON/STILL PICTURES

TRYGVE BOLSTAD/PANOS PICTURES

The disaster had nothing to do with waters from the sea. Moreover, global warming could well cause the monsoon system to become more powerful in its impact, whereupon the rivers' flow into Bangladesh could expand by at least half during the monsoon season. Indeed, the threat from inland flooding may turn out to be more serious than the better recognized threat from rising sea level. ■



Environmental neglect that fuels migration

Mexico is a middle-income country with a per-capita income of almost $3,500. As such, it has joined the major industrialized countries in the Organization for Economic Cooperation and Development (OECD). But, in many respects, the country is experiencing an environmental crisis. Despite much rapid development during the past half century, the environment has been treated as merely the raw material for economic growth, with scant regard for its long-term viability.

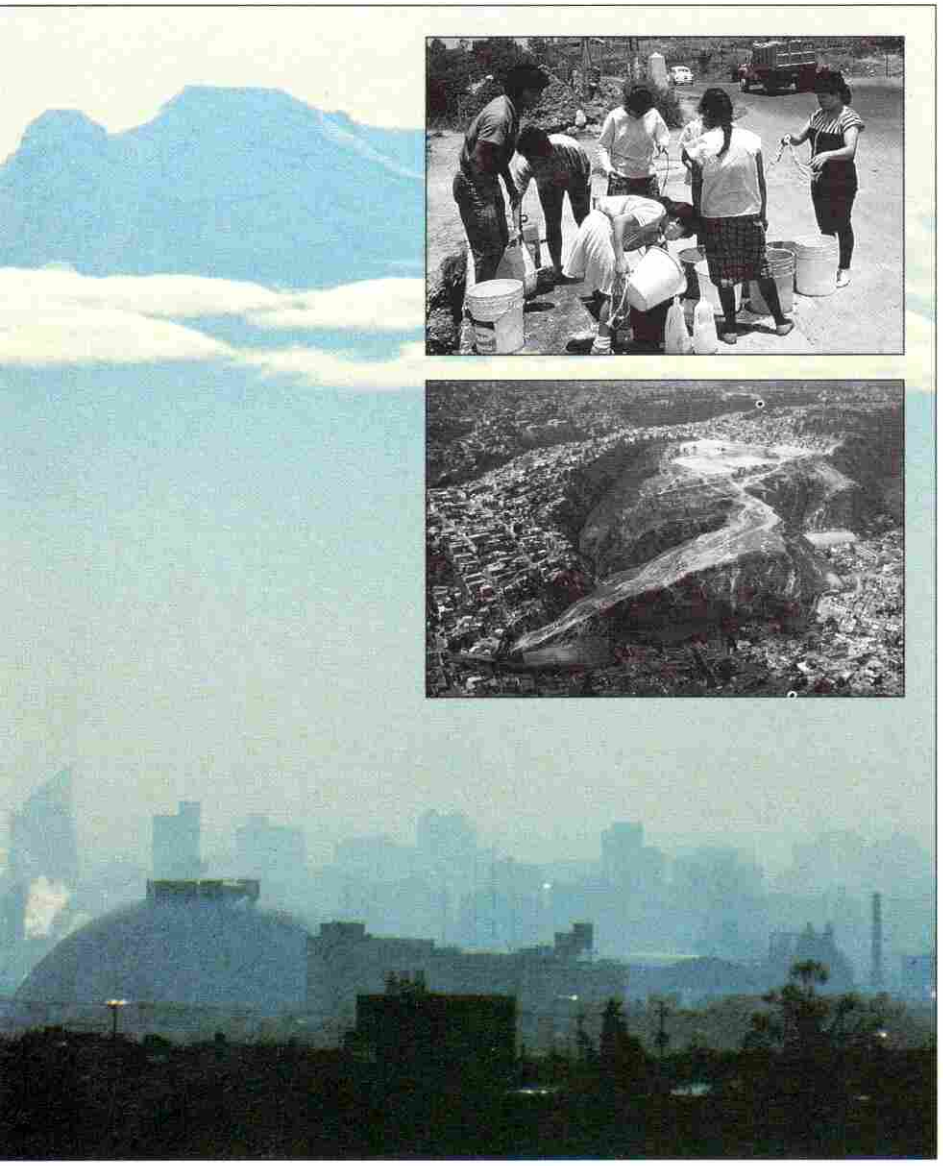
Mexico was the first developing country to engage in Green Revolution agriculture, expanding its grain production four-fold between the mid-1950s and the mid-1980s. But its population growth has also been among the most rapid anywhere, increasing the national total from 27 million in 1950 to 92 million today, making it the second largest in Latin America. As a result of the upsurge in human numbers together with nutritional needs, plus an increase in environmental degradation, the benefits of the Green Revolution breakthroughs have all but dwindled away in terms of per-capita consumption. From 1986 Mexico has been a net food importer. In 1992 it purchased over 7 million tonnes of cereals, enough to meet the minimum needs of 27 million people.

Because much of the country is dry, only 13 per cent of national territory is arable. In more than 70 per cent of the better agricultural lands (including grasslands), soil erosion was significant 10 years ago (60 per cent medium and growing worse, 12 per cent severe). At least one-tenth of irrigated areas (which total 21 per cent of all croplands) have become highly salinized, and one-fifth need urgent (and expensive) rehabilitation if they are to be restored to productivity. The problem is growing worse, even though salinization already causes an annual loss of one million tonnes of grain, enough to feed four million people.

The country's remaining forests are being reduced by over 4 per cent every year. The loss of the forests' 'sponge effect' disrupts river flows – and in two-thirds of arable lands, water supplies constitute the main factor limiting agricultural productivity. Because of failing water supplies together with soil erosion, a sizeable proportion of farmlands are abandoned each year. From the late 1950s to the early 1970s the area under staple crops – corn, wheat, rice and beans – expanded by almost half, extending into marginal lands with highly erodible soils. At least 45 per cent of farmers occupy those 20 per cent of croplands that are steeply sloping. As far back as the mid-1970s, these newly opened-up areas were starting to feature declining crop yields, and per-hectare wheat yields nationwide have shown no improvement since 1985. Every fifth Mexican is malnourished.

At the same time, large farmers, engaging in capital-intensive cash cropping for export, are buying out small farmers or *campesinos*. As a result, and because of the fast-growing population, 60 per cent of peasants are considered near-landless or completely landless. As a further result, increasing numbers of these peasants impose still greater strains on over-worked croplands, reducing their carrying capacity. As a further result still, large numbers

JULIO ETCHART/REPORTAGE/STILL PICTURES



Left: *Air pollution over Mexico City.*
Inset, above: *Newly arrived migrants buy water from a man controlling a public tap.*
and below: *Chalco District, Mexico City – settled by rural migrants in little over a year.*

INSETS: MARK EDWARDS/STILL PICTURES

of marginalized farmers have long been obliged to migrate into marginal lands – precisely the lands most susceptible to degradation.

In addition, many migrants make for the major cities, which, after growing at 5 per cent or more per year since 1960, are less and less capable of absorbing more arrivals. For every two rural Mexicans who head for cities, one now crosses the border into the United States.

The cities do not hold out much hope of a sustainable livelihood. Mexico City contains around 17 million today. Its environmental underpinnings are little better than those in the more impoverished parts of the countryside. Almost two people out of five lack access to clean household water; and 80 per cent of the city's water comes from groundwater wells, which are being over-pumped at a rate of 50-80 per cent of their natural recharge, obliging the municipal authority to bring in water from 100 kilometres away. Pollution is so severe that breathing the air is equivalent to smoking two packs of cigarettes a day.

As for population growth, the outlook must be considered unpromising insofar as Mexico cannot support (feed, employ, house, generally care for) its present population of 92 million people, let alone a much larger total in the future. Because of the youthful profile of the population (38 per cent under age 15) and hence the built-in demographic momentum, the next four decades are expected to add 60 million people, compared with 57 million during the last four decades.

Worse, of the 35 million people in the current work-force, half are unemployed or under-employed, a total that is expected to exceed 22 million by the year 2010. The work shortage is worst in rural areas, where the rate of unemployment and under-employment sometimes reaches 65 per cent – and where the numbers of near-landless and outright landless amount to 60 per cent of farming households.

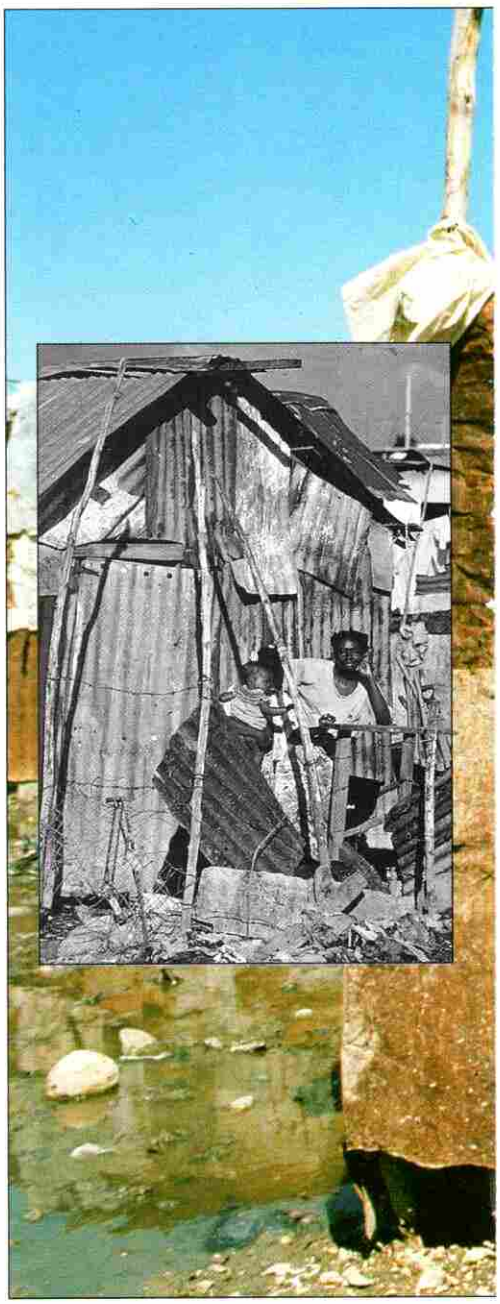
Despite a remarkable economic performance for much of the period 1960–1980, the economy has often stagnated or even contracted since then while the population has grown apace. Nor does the economic outlook presage much sustainable improvement. The trade balance turned negative in 1989, since when exports have grown at an average annual rate of only 1.5 per cent. Foreign debt totalled $102 billion in 1991, and servicing its interest consumed 31 per cent of export earnings. Not surprisingly, per-capita economic growth has fallen close to zero. During the period 1982-91, wages lost more than 60 per cent of their purchasing power in real terms.

A realistic prognosis is that many Mexicans in the year 2000 could be poorer than they were in 1985. To keep pace with the growing work force, moreover, Mexico will have to create at least one million jobs a year, a rate that is half that of the United States while doing it off an economy only one thirtieth the size. Not surprisingly, then, it is an optimistic estimate that foresees "only" 20 million Mexicans without adequate employment in the year 2000. At least half of these will be living in rural areas, where there could be an additional 2 million, perhaps even 4 million, landless peasants.

The NAFTA free-trade zone is expected to attract more American capital, including investment in agriculture, creating some additional employment – though this is unlikely to supply more than a small proportion of the million extra jobs needed. We can reasonably suppose there will be ever-growing streams of environmental migrants driven to leave the countryside and head for the cities before seeking livelihood across the Rio Grande. This prognosis is without allowing, moreover, for global warming, which may turn an already dry country into a still more drought-prone one. ■

Real lives 1: Haiti

Haiti is an island of environmental refugees. Its once dense forests now cover only 2 per cent of the land. With two-thirds of the farmlands sloping more than 20° and a population density of over 270 per km², erosion is severe. Arable land has declined by two-fifths since 1950 and per capita grain production has been halved. Repression and gross maldistribution of land have not helped (4 per cent of the farmers own more than half the land). As a result, more than 1.3 million Haitians – or one in five of the populace – have left their homelands, many for other Caribbean islands, and some 180,000 for the United States or Canada. Others have moved to the city slums, where these pictures were taken earlier this year by *Mark Edwards*. **The personal stories of these migrants from a devastated land are told here by American anthropologist** *Catherine Maternowska*, **in a special report for** *People & the Planet.*



'My land was tired – so I left'

The paths to the river in Ouanaminthe, a small village in Haiti's north-eastern countryside, are narrow and thick with cactus bush. When she was six years old, Ginette would rise at 5 am with her three older sisters, walk to the river and fill their large oval calabash gourdes, perfectly balanced over their heads. The cool water gathered from 'the spring', as it was referred to by locals, was essential to the household for drinking, cooking the day's meal, washing the dishes and for coveted sponge baths.

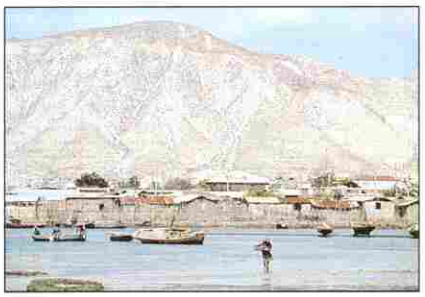
During the dry season, with the extra hands of her five brothers, they would make several trips a day to the river, filling endless containers with water to moisten the parched earth on her family's land. The water, flushed through the long bamboo tubes, would nourish rows of tiny corn plants.

As Ginette grew older, she learned to prepare the day's meal, and serve it to the *conbit*, or large group of planters hired by her parents. For 40 cents a day, men from the village would work the earth from 6 am to 12 noon, racing to plant the grains before the growing season. Planting too late would mean missing the markets.

As she recounts her life – where she grew up and how she came to find herself struggling to survive in a shanty town in Port-au-Prince – her memory is jogged by seasons. "During my fifth mango season," she recounts, "I slipped and broke my arm." The cost of the accident including paying the bone setter, finding antibiotics and praying with offerings to ancestors for renewed health, drained the household that year. The next rice season was, as a result, 30 per cent less productive. A single sickness can ruin a household's economy in rural Haiti.

Desperate for income, with 10 hungry children to feed, Ginette's parents sold the family's cow and pig to buy corn seed, fertilizer and a new sickle for the upcoming season. With an aching arm that healed improperly, Ginette would bend over in the fields, machete in hand, clearing the shrubs from the ground. After the corn was planted, the rains failed to come, and an already precarious household plummeted further into poverty. With the sweet potato season on the way, the only recourse was to sell some land and hope the potatoes would grow on the remaining soil.

The year before Ginette was sent to Port-au-Prince, the size of her family's land was halved. "We were skinny and so too was our land." Many of her brothers and sisters had already left for larger, more prosperous villages, hoping to find odd jobs or the chance to go to school. Ginette, it was decided, would go to the capital city. With the smaller plot of land, there was no room for extra hands. The city might lead to work and food.



In Port-au-Prince, Ginette joined her aunt, who lived in Cité Soleil – the densest slum in the Western Hemisphere. Covering 5 km^2 on the northern edge of capital, it is home to some 300,000 Haitians. It is here where the drama of survival unfolds.

Living conditions are appalling, characterized by small homes made of cardboard packing cases, boards and abandoned metal sheeting. Inside the homes, walls are decorated with brightly coloured pages from *Paris-Match, El Nacional, Sports Illustrated* and Sears catalogues.

Beds are typically raised four cinder blocks high above the ground, since the rain water mixed with sewage gushes thigh-high into homes during the rainy season.

Above: *Ginette stands outside her tin shack home in Cité Soleil with three of her five children.*
Inset: *Celeste outside her home*
Left: *Haiti's once wooded hills are now bare of vegetation.*
Below: *A group of planters form a* conbit *to dig the land. They sing "The soil is our pathway to heaven, we shall never cease, we shall never stop."*

Unemployment is high, reaching 70 per cent in 1993. Residents in Cité Soleil usually try to link into a highly active informal economy. Protected from the sun by plastic tarpaulins, charcoal vendors and women selling imported plastic wares or big pots of goat head stew crowd the tiny passageways of the slum. Profits of US$1 a day are considered generous in a country where 61 per cent of the people earn less than US$100 a year.

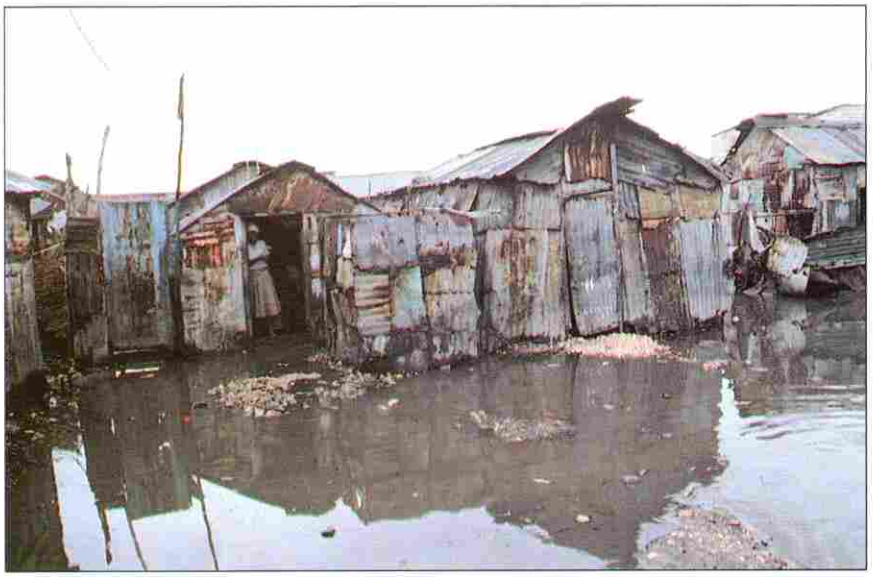
Water, contaminated rubbish and faecal matter is the origin of epidemics including malaria, typhoid, chronic diarrhoea and intestinal infections. Infants are especially vulnerable to these diseases, accounting for the death of up to one-third of all children before the age of five. It is common to see people washing, bathing and scrubbing clothes in the filthy canals that twist through the community.

Poor housing, precarious health standards and intermittent meals decrease the odds of surviving life as an environmental refugee. Yet there is always hope that one child can be sent to school or that another might find a temporary income – ensuring the family's survival for another week. Deprived of their land, rural migrants want jobs, food for their families and a future for their children.

And so it has been for Ginette. She is now 29 years old and has five children. She lives in a minute tin shack on the marshy edges of the Bay of Port-au-Prince. At one time, she sold produce in the markets of Port-au-Prince. She would travel between her city dwelling and her home in Ouanaminthe filling large baskets with fruits and tubers to sell in the city. Dwindling crop production and high transportation costs made the journey increasingly difficult.

Her toothless mother, who recently joined Ginette in Port-au-Prince, says, "the spring where my child would find the water is dry now." Shaking her head, she continued, "It's because there are no trees and so the sun took our river...but we had no choice." Choked by poverty, Ginette's mother had cut dozens of trees by the river to make charcoal for cooking fires. In the market, sacks of charcoal replaced sacks of potatoes.

Ginette's father died when he was 52 years old, just over the life expectancy for men in Haiti. Before his death, more of the family land was sold to pay for his lingering illness and to buy food for the household. When he died, the last parcel of land was sold to pay for the funeral, a ceremony of great importance in Haiti. Soon after, Ginette's mother moved to Cité Soleil and joined the ranks of Haiti's impoverished, landless peasants.

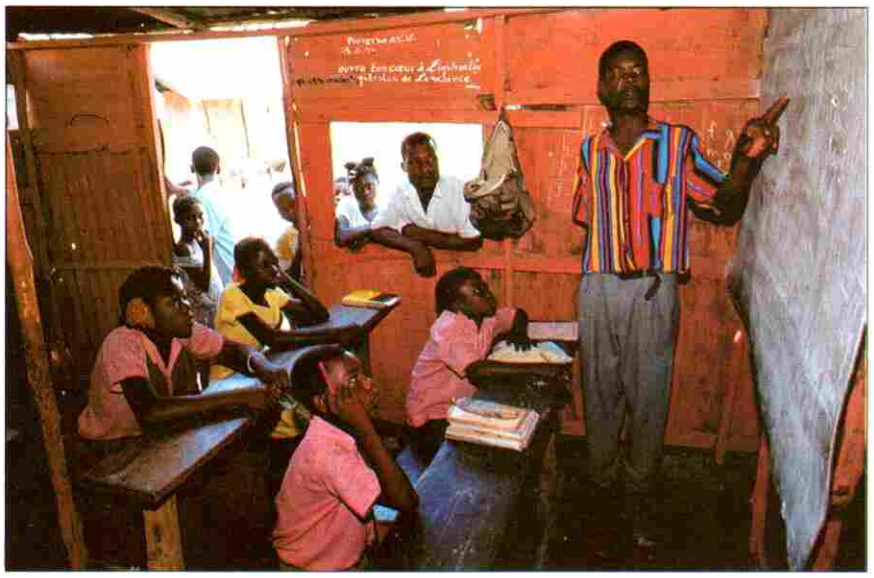


Celeste, Ginette's neighbour, was born in Les Cayes in south-west Haiti. She too fetched water and helped on the family's land a as a young girl. "We were always planting or harvesting our crops – rice, corn, manioc, beans, mangos and avocados. We worked 24 hours on the hour." She crosses her arms and sighs, "we planted but this does not mean we did not suffer."

Her worn face is sad: "We were always in combat with the water. There is plenty of land in Haiti, but our basins are dry. The plants can't push through the dry earth." When the harvest failed to produce, wood became the only resource. Her father would chop the trees and with her mother would dig deep pits in the sides of Haiti's mountains, slowly treating and burning the wood in preparation for sale. "When the trees are finished," she wonders today, "what will there be?" "More hunger," she responds to herself.

"Long ago, even when there was water, we small peasants never had roads." Without roads, rural women walk for days, carrying goods on their heads to the nearest market town. Peasant families who own a donkey have a slightly less daunting trek over Haiti's steep hills en route to the marketplace. "If there were roads and water in our country," Celeste claims, "our children would not leave the countryside. We could sell our produce, eat well, build schools and live as a peasant deserves to live."

Celeste left Les Cayes for Port-au-Prince, when neither crops or charcoal could provide enough income. She was uneducated and only 17-years-old. One year later she had her first child and has since had seven children. Three of them have died. She constructed her own home in Cité Soleil from metal oil



Life in Cité Soleil.
Top left: *Crowded streets.*
Below left: *Sewage-laden flood water pours through shanty homes.*
Top: *Lessons in a makeshift school. On the wall, a biblical quotation: "Apply your heart to discipline, and your ears to words that are wise."*
Above: *Beautifully dressed schoolgirls dodge like butterflies through the filth.*
Right: *Cooling down under a water pipe.*

barrels pounded into thin walls.

In the city, Celeste found work as a domestic with a wealthy family, their home perched high over the hills of Port-au-Prince. She worked sunrise to sunset: shopping for meals, cooking, scouring pans, washing clothes, and cleaning the home. Her salary was US$25 per month. In the evening, when she returned to Cité Soleil, there were still more chores to be completed.

With great outrage she tells me: "When you work the land there is no humiliation. Your body aches, scorched and feverish from the sun but you never feel humiliation. The food and the land belong to us and we have great respect for this." Life in the capital city has left its painful scars on Celeste. "When I worked in the home of the family," she continues, "I worked until my body hurt. I was forced to continue, against nature, without stopping – for pennies! This is humiliation."

Celeste looks to me and says in Haitian Creole, "*Chache lavi, detwi lavi*" – "Searching for life, destroys the essence of life." Ginette nods in agreement. Neither of these women have improved their status through migration to Port-au-Prince. As they so poignantly express, everything they have learned, accomplished and believed in has been destroyed. "There's not a cup of water to drink in the countryside – and here, if there is water, our children become sick from it...sometimes they die."

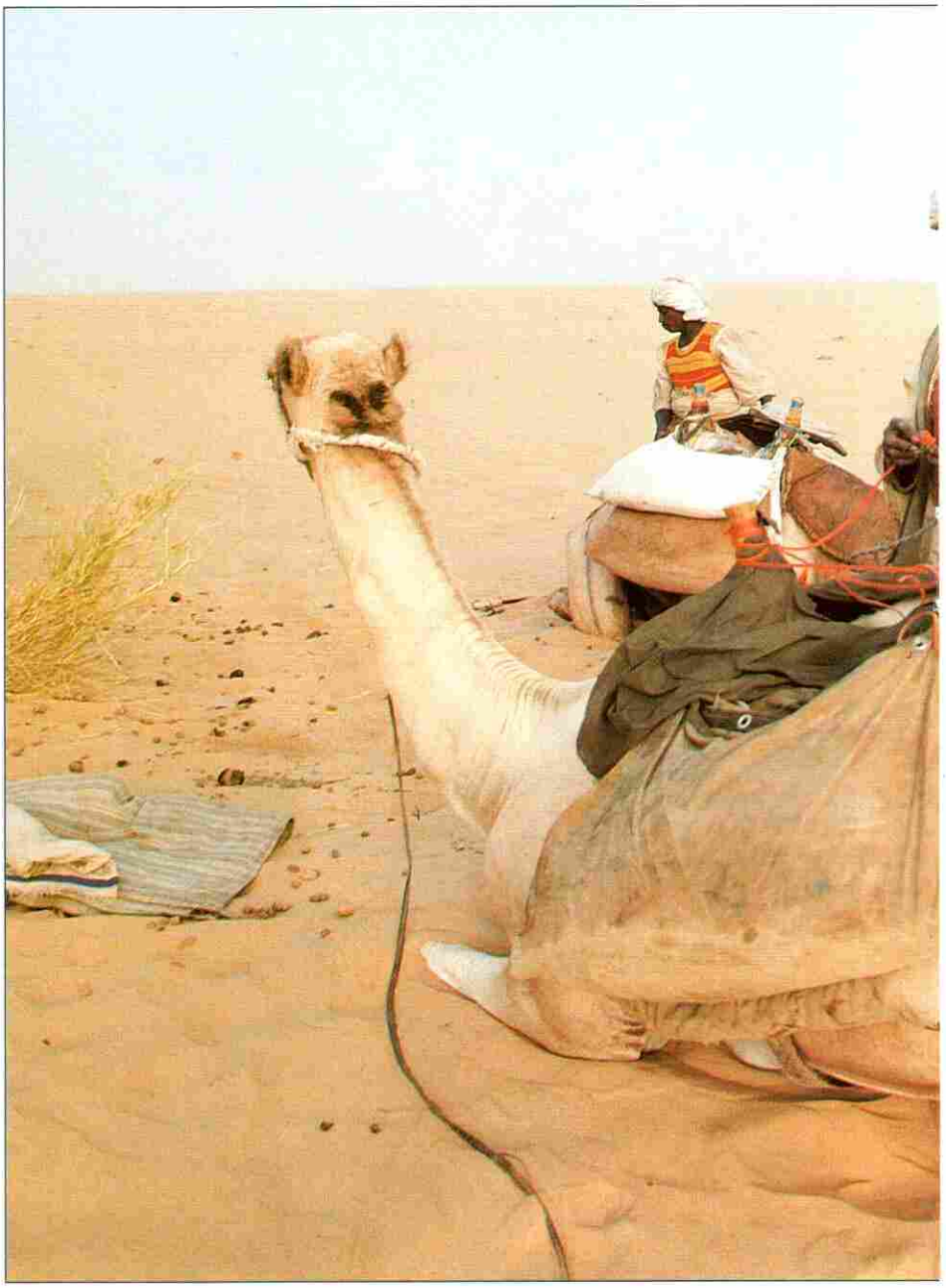
A reversal of rural to urban migration, a trend that has yielded inferior lives in Cité Soleil, seems to hold little hope. "What will save Haiti," Ginette and Celeste say, "is water and roads. Then our crops could grow again and we could sell produce in every corner of our country."

They smile as they list the things they wish for most in rural Haiti: "Schools for our beautiful children, clinics for the ill, water pipes that descend into the rocks underneath the earth." "What about trees?" I ask, "Does Haiti need trees?" They slap there knees laughing, "Heeey! Yes! We need trees and engineers to help us plant them, and roads to bring them to us and water to help them grow..."

In April 1986, a national march in favour of reforestation and conservation of natural resources marked the start of concerted efforts to protect Haiti's ecosystem. National and international organizations established themselves; tree planting and water projects took on increased importance. But with the fall of democracy, most notably since President Aristide was ousted in a violent coup, the impetus to protect the environment and empower those who live in it all but died.

Ginette and Celeste would be the first to say that it is the new chance for democracy, not dictatorship, which is the true hope for returning Haiti to an earthly paradise it once was. ■

Real lives 2: Sudan



ALL PICTURES: DAVID MELODY

The great Sudan famine of the mid-1980s displaced hundreds of thousands of farmers and pastoralists, driving them from the western provinces into urban feeding stations and squatter settlements. Today, it still reverberates at all levels of state and society. Here *Louis Werner* tells the story of one nomadic camel breeder and his family.

With the Sudan's famine came social dislocation and political chaos. The long-time military leader, Jaafar al- Numeiri, fell from office. The ill-starred Sadiq al-Mahdi was freely elected and the still-ruling Islamist strongman, Lt Gen Omar Hassan al-Bashir, finally seized power.

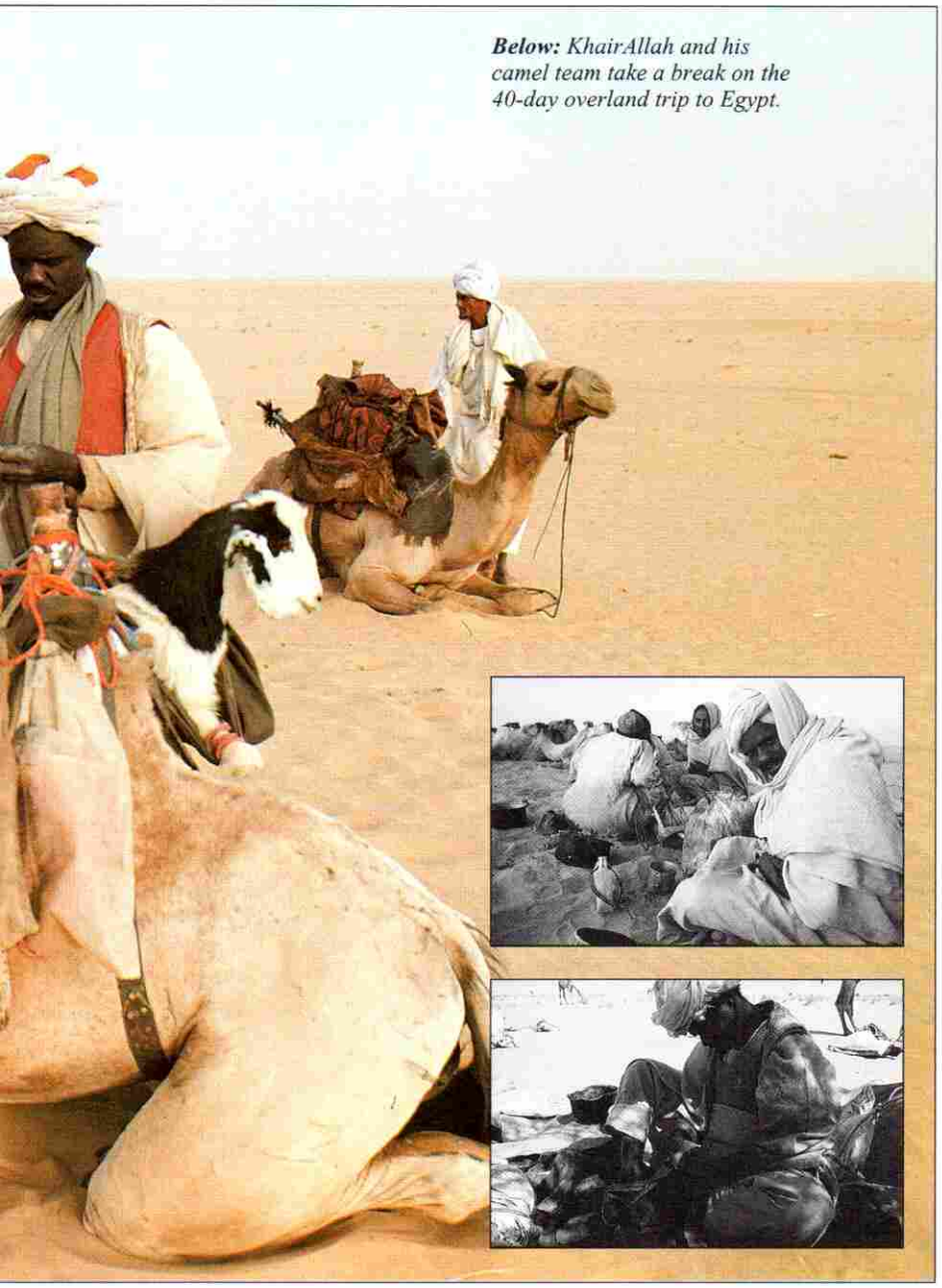
Nomads and agriculturalists alike streamed cityward away from the jaws of the drought and death, an urban influx which dramatically changed the face of Greater Khartoum already flooded many times over with the war refugees from the south. This time round came Arabic-speaking Muslims – primarily of the Hamar – and mutual exchange. They had never before experienced an urban environment and were totally unaccustomed to its ways of eking out a cash-based existence.

Families initially were often split in half by the migration – men taking their herds south in search of pasture, and women taking their children to relief centres in search of food. Camps at Abu Zayd and Mwellih near Umdurman filled with over 100,000 refugees in a matter of months. Camps at Ed Debba, on the Nile River's Nubian reach, filled with tribesmen desperate to sell sheep and goats weakening day by day.

One of the refugees to the capital district was KhairAllah Khair Al-Sayyid KhairAllah, a fit man of 50 whose camel breeding livelihood was turned upside down by this natural disaster. The threat of drought-killed livestock forced him to liquidate everything in a market of distress sale-dampened prices. The carefully husbanded animal wealth that for generations had sustained his family in Dar al-Kababish, the tribal district surrounding Um Badr village, was wiped out in a single afternoon of pitiless auctioneering.

In 1985, KhairAllah moved his closest family members to the outskirts of Umdurman to a place called Suq Libya, named for the intended destination of would-be migrant workers lingering there for months in hope of being called up one day by labour brokers. KhairAllah's windowless urban home, thrown together with woven reed mats for walls and ceiling over a sand floor, is a far cry from his expensive family quarters in Um Badr.

Strangers surrounded KhairAllah in Suq Libya. His wife rarely left their dwelling, less for modesty than the



***Below:** KhairAllah and his camel team take a break on the 40-day overland trip to Egypt.*

threat of theft. Petty pilferage, once considered an iron-clad tribal taboo, was common – food being the thieves' chief target. Hunger forced fellow tribesmen to break all the rules. But the denizens of Suq Libya were luckier than those of squatter settlements populated by southern war refugees, which had been bulldozed, moved miles into the desert without infrastructure of any kind, and given the Orwellian name "cities of peace".

Former government Commissioner for Refugees Abdel Rahman al-Bashir notes with regret the lost opportunities when Suq Libya's squatters were not encouraged to return to the western provinces immediately following the resumption of the rains. "All they needed then were a few goats and a wet she-camel to give them milk," he says. "But now they have forgotten those ways and might never want or need to relearn them."

Indeed it is a strange sight still to see tribeswomen brewing tea for milling sidewalk customers and tribesmen standing nightwatch over building sites for the urban well-to-do when just a few years ago they would have been herding their own camels from solitary encampments. Although many tribespeople remain in Umdurman, gleaning the city for coinage as they once scrounged the desert for firewood, KhairAllah among others has managed a partial return to ways of his ancestors.

The camel trade to Egypt was boosted in the drought years as tribal breeders sold their stock. The difference between what they would take and Cairene butchers would give made this an export trader's market. For the 40-day overland trip to Egypt, traders hired camel drivers. Those with experience and character were paid a premium and so KhairAllah, who in the past had occasionally made the trip, found steady employment as a *khabeer* – an Arabic word for 'expert' – known in the American slang of the Old West as a trail boss.

The irony of employing former subsistence nomads to create a cash economy linking Africa's largest city to

Old nomad ways forgotten

Africa's most sparsely settled land was not lost on KhairAllah. He particularly regretted that export herds came to include more and more she-animals, the basis of his pastoralist life which, once depleted, takes decades to replace. But he could only laugh at the sight of mud brick masons, shopkeepers, and even Quran teachers lining up for the chance to work under him as lowly trail drovers.

Often leading back-to-back camel drivers, away from home and utterly exhausted for months at a stretch, KhairAllah earned a good cash wage but at personal price. He left his wife in Suq Libya unprotected by the privacy of nomadic life and his aged father confined during his declining years in a porchless hovel set among strangers. They had access to countless market goods, but things once had for free – local transport, water, meat, cooking fuel – now had to be bought.

More recently, KhairAllah's fortune has again been buffeted by forces beyond his control. The current state of diplomatic unease between Egypt and the Sudan has put the squeeze on the camel trade. Wage jobs on the trail are fewer and KhairAllah spends more time waiting in Suq Libya for word from the trader. Some savings remain but he is reluctant to start now to rebuild a personal herd. Another multi-year cycle of drought is on the horizon and his life as an urban squatter, now well established, provides more security in an unknown future. ■

Real lives 3: Mexico

Mexico City's earthquake of September 1985 did more than kill 7,000 people and destroy tens of thousands of inner-city low-income housing units. It spurred the growth of squatter settlements, or *colonias populares*, at the urban edge of this fast growing city. *Louis Werner* met one of the new squatters in one of these *colonias*: an urban refugee from the polluted inner city.

Estela outside her home in the Dario Martinez colonia.

DAVID MELODY

After the quake

Dario Martinez is a *colonia* in the city's south-east, just inside the federal district-state of Mexico. It is here that Estela Lopez Torriz, a 36-year-old divorced mother of five, arrived after her *vecindades* (low-cost housing unit) collapsed.

Although untypical of the majority of its new settlers – most in fact come from Ciudad Nezahualcoyotl, a mixed-income suburb of some two million people founded 30 years ago on the dry, dust storm-prone bed of nearby Lake Texcoco – Estela does embody what is increasingly the most common cause of urban flight in Mexico – not housing, not jobs, but rather escape from an unhealthy environment.

"Here in the dry season" she says, "there's so much dust blowing you're soon powdered white as a ghost. And when it rains there's so much water standing in the streets, you fall in and only then get clean. But it's worse in the capital. There you can't see what's in the air, but they still tell you never to breathe when you go outdoors. How do they expect you to do that?"

Economic opportunities, in fact, are usually worse at the periphery than in the city centre – many must commute back to town to find work – but the physical quality of life on balance is better. While there may be few urban services like electricity and piped water, there are fewer still urban menaces like overcrowding, air pollution, chronic water shortages, and earthquake dangers.

Earthquakes in Mexico City are no longer taken lightly, especially with evidence showing that pumping water from underground reservoirs to quench the mushrooming city's unslakable thirst has significantly heightened seismic risk. Distant sources are too expensive to retrieve, but heavily treated municipal water, even when one is lucky enough to find it running, is quickly becoming undrinkable. And no one thinks the stricter anti-earthquake building codes, leading to more expensive construction, are being enforced.

The threat of air pollution is more imminent if also more ephemeral. Air emergencies are often announced on television. School is cancelled, driving restricted, and the January vacation extended so parents can take children out of the city for the most polluted month of the year – as if Mexico City's impoverished millions have country vacation homes to escape to! But air pollution is strikingly lighter in most peripheral low-income areas, even with the many industries located there. Even more polluting stop-and-go traffic remains an inner city problem.

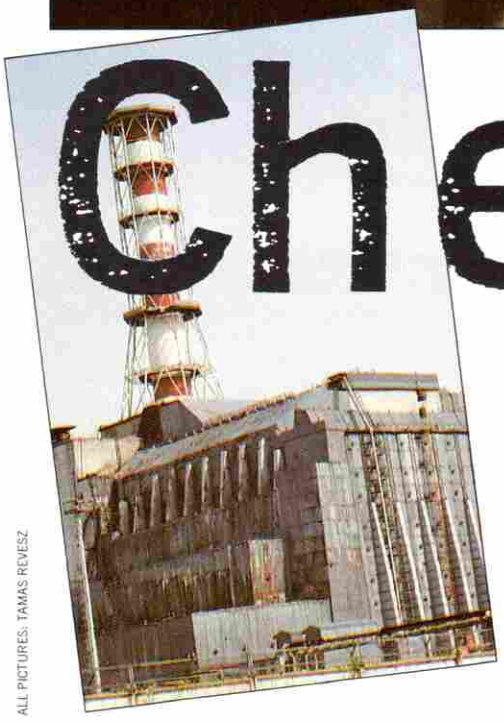
But when Estela's family lived in the cramped quarters of their *vecindad*'s one room, dirty air was not enough to keep the children inside. Overcrowding was a serious psychological problem that had to be overcome at any cost. And in any case, the respiratory infections caused by the air outside would be all the more quickly passed among a family trapped together indoors.

Estela brings to Dario Martinez a raised consciousness about Mexico City's imperiled environment. When newly formed conservation organizations like the Group of 100, led by novelist Homero Arjidis, speak out about pollution, Estela listens. She knows well that urban poverty and ecological risk are linked, and that until recently, she was one on Mexico City's millions of poor suffering inequitably the ills of the urban environment.

"Dario Martinez's bylaws guarantee us environmental protection" she says, "but what kind of government is it that takes our money in taxes and pays us back with smoke and garbage and open sewage. If the President ever comes here, I hope it's in the rainy season. He'd have to walk down our streets jumping over cess-pools and mud holes, and then he'd see!"

No doubt Estela's move to Dario Martinez had unexpected benefits. But she is still poor and still hoping that, as the *colonia* becomes as thickly settled as the centre of Mexico City, it does not also come to share the urban environmental nightmare. ■

The 'children' of Chernobyl



ALL PICTURES: TAMAS REVESZ

Top: *Alexander Marenich looks out at the dead city of Pripyat from his abandoned apartment.*
Above: *Chernobyl power station.*

by Don Hinrichsen

In his baggy white pants and shirt – required garb for all those entering the restricted zone around Chernobyl – former transport engineer Alexander Marenich quietly surveys the wreckage of what used to be his apartment in Pripyat, a town built in a quiet wooded grove, just a few kilometres from the Chernobyl nuclear complex. Once home to 45,000 people, it is now a ghost town. The visit, his first since the accident, is painful. Wallpaper hangs in strips from the walls, electrical fixtures have been removed, all the appliances have been ripped out, leaving gaping holes in the plaster, and the few remaining sticks of furniture are piled in a pathetic heap on the floor. A child's stuffed toy lies abandoned on the stairwell.

"I spent some of my best years here," says Marenich. "We fished in the Pripyat River and the Kiev Reservoir, had picnics in the woods and took long walks. Now all that is in the past." The area is still a 'hot spot' of radiation and is contaminated with long-lived radionuclides – mainly caesium-137, strontium-90 and plutonium. No doubt,

Pripyat will remain a disaster zone for decades, if not centuries.

The 'explosion heard round the world' is so vividly seared into his memory that it could have happened yesterday. In the early morning hours of April 26, 1986, Marenich was still at his office in the administration building in Pripyat. At around 3 am he received a terse call informing him that an accident had occurred in Reactor No. 4. Though he had no idea how bad the situation was, Marenich began mobilizing for what would soon become one of the worst nuclear accidents ever reported.

"The next 72 hours were a nightmare for me", recalls Marenich. He hardly slept for three days, frantically helping with the emergency evacuation of the town. Marenich, like thousands of others, fought in the 'Battle of Chernobyl', which lasted for 10 days until the raging reactor fire was eventually extinguished on May 6. During that time, some 20 million curies of radioactive particles and gases were spewed into the atmosphere, some of them ending up as far away as Alaska.

He also became one of its many victims. Upon his evacuation to Kiev, where he joined his family, Marenich was treated for mild radiation sickness. He doesn't know how much radiation he received during those first terrible days after the explosion. Not even the firemen had dosemeters. But he thinks it was around 30 rads. Like many of the 1,200 people who needed treatment for the immediate fallout – around 10 million curies of radioactive debris fell within a few kilometres of the plant – his recovery was a slow and tedious process. Marenich's health has never been fully restored, nor is it likely to be.

"I cannot smoke or drink and I am on a strict diet," he complains. "Chernobyl was a catastrophe for me and the country. Nothing will ever be the same again."

For Marenich, who now works as an adviser to the Ukrainian Ecological Fund in Kiev and drives visitors around in a beat-up Lada, life will certainly never be the same again. Nor is it likely to be for the thousands of other 'children of Chernobyl'.

In the days after the explosion and fire, some 135,000 people had to be evacuated within a 30-km radius from the stricken plant. Of the 91,000 Ukrainians evacuated – the rest were from Byelorussia, just across the border – some 60,000, including most of the residents of Pripyat, ended up in Kiev, Ukraine's lovely tree-lined capital, located around 80 km to the south. Of these refugees, many, like Marenich, were relocated into dingy, overcrowded apartment buildings on the western and southern fringes of the city; areas now referred to as 'little Chernobyls'.

The resettlement of the refugees from Chernobyl was only the beginning of the nightmare for many of them. Although only 31 people died as

Top: *The ghost town of Pripyat, from where people were evacuated.*
Above: *Because of radiation, the stretch of the Dnieper between Kiev and Chernobyl is closed to tourists.*
Left: *A memorial for the victims of the accident in the basement of the power station.*
Top right: *The first checkpoint marks the entrance to the 30 km danger zone.*

a direct result of the accident – 29 from acute radiation poisoning and two from the explosion – thousands, like Marenich, needed treatment for milder forms of radiation sickness. Upwards of 300,000 Ukrainians and Byelorussians are now being treated for radiation sickness, including 150,000 people who received excessive radiation doses to their thyroid gland and nearly 8,000 (mostly from Pripyat) who were zapped with over 200 rads of radiation (the permitted dose is only five rads).

Many of these people face the grim prospects of a lingering death from a variety of cancers or some opportunistic infection – the result of irreparable damage to their immune systems.

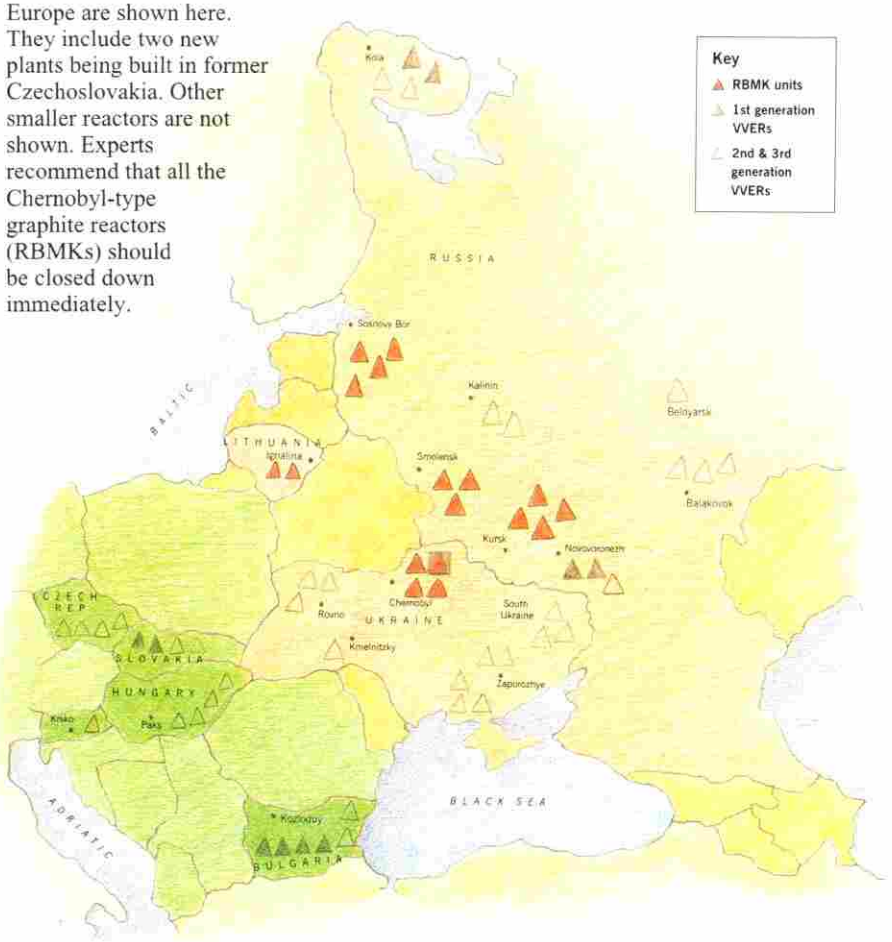
"As of 1993, some 7,000 people have died as a result of Chernobyl," says former administrator of Pripyat, Alexander Esaulov, now President of the Ukrainian Ecological Fund.

Some think that figure is only the beginning. According to various estimates, depending on the study, anywhere from 28,000 to one million people across Eastern and Western Europe are expected to die from cancers and other fatal diseases triggered by the fallout from Chernobyl.

"Unfortunately, it is impossible to say how many people have been affected by Chernobyl," claims Dr Leonid Tabachni, Chief of the Department for radiation safety in the awkwardly named Ukrainian Ministry for Protection of the Population from the Consequences of the Accident at the Chernobyl Nuclear Power Plant. "The ▶

More Chernobyls waiting to happen?

The 60 commercial nuclear reactors in the former Soviet Union and Eastern Europe are shown here. They include two new plants being built in former Czechoslovakia. Other smaller reactors are not shown. Experts recommend that all the Chernobyl-type graphite reactors (RBMKs) should be closed down immediately.



Assessments carried out by the International Atomic Energy Agency (IAEA) in Vienna show that 26 of the 58 Soviet-designed reactors operating in the former Soviet Union and Eastern Europe suffer from "serious" safety deficiencies – including all Chernobyl-type reactors and all of the first-generation pressurized water reactors (known as VVERs). Another 14 reactors, of the second- and third-generation VVERs, are plagued by "considerable" safety problems. In all, the IAEA report identified 1,300 safety deficiencies in these plants requiring attention – flaws that will require extensive retrofitting if they are to meet even minimal Western safety standards.

Among the most dangerous plants on IAEA's list are all 16 Chernobyl-type graphite moderated reactors, and 10 first- generation VVERs. In addition to Ukraine, the Chernobyl-type reactors are found at Ignalina, Lithuania and in Russia at Sosnovy Bor (near St Petersburg), Smolensk and Kursk. The first- generation VVERs are at Bohunice (Slovakia), Kozloduy (Bulgaria), and in Russia at Kola and Novovoronezh.

European nuclear experts are worried. After visiting the Sosnovy Bor and Ignalina plants in January 1992, a group of Swedish specialists noted in their report that the likelihood of a serious accident at these Chernobyl-type reactors was "hundreds of times higher than in Western European plants."

The former Soviet Union was the third largest nuclear country, after the United States and France. Estimates of how much it will cost to make these plants safe run into the billions of dollars. Eberhard von Koerber, executive vice-president of the Swedish engineering firm Asea Brown Boveri (ABB), claims it could cost up to $50 billion to rehabilitate, decommission and replace the most dangerous plants.

Meanwhile, most of the other Chernobyl-type reactors continue to operate. The question is: will they be retrofitted, retired, or go out with another bang? ■

radioactive pollution from Chernobyl may combine with industrial pollution and other environmental health factors (such as smoking). So it is difficult to say with finality the exact cause of death."

Still, the worst effects are seen in Ukraine and next door in Byelorussia. For administration purposes, the Ukraine now has divided its contaminated areas into four zones around Chernobyl, containing nearly 3 million people, including 500,000 children. In Byelorussia, 18 per cent of the republic is contaminated, including 257,000 hectares of prime farmland. Monitoring the health of people in these areas is a continuing headache for the authorities.

Even within the 30 km 'dead zone', where no one is supposed to live, several thousand pensioners have returned to their cottages, regardless of the risks. Remarked one old man, who had lived in the region his whole life: "If I am going to die, I want to die in my own bed."

Ironically, in a country traumatized by the accident, two of the remaining three reactors at the Chernobyl complex were still operating in May 1994. Saddled with a hopelessly devalued currency (in fact, the Ukraine has issued coupons, instead of roubles), and caught in the middle of enormous economic restructuring with millions unemployed, there is simply no money to invest in safer natural gas-fired power plants, or other alternatives. "It looks like we will have to continue down the nuclear road," shrugs Esaulov.

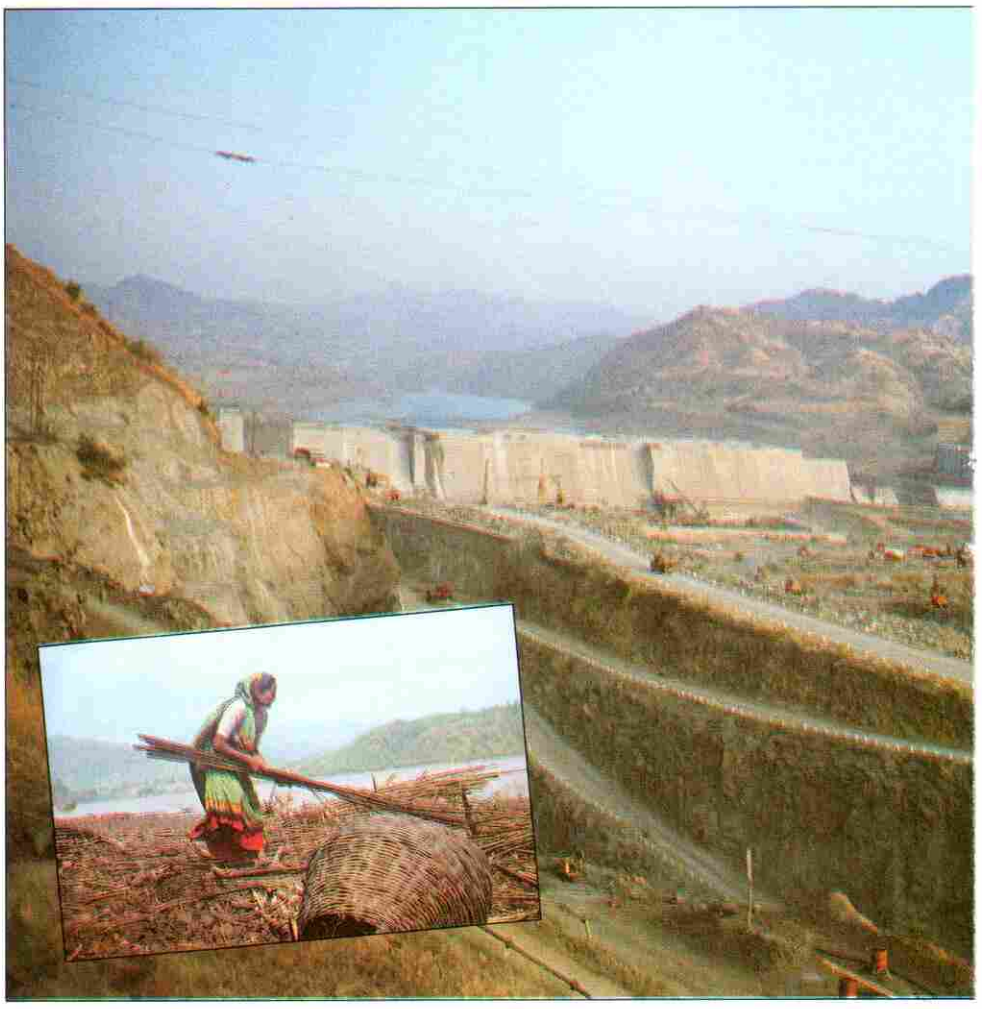
As if in anticipation, the nuclear authorities built a new town, named Slavutich, 50 km from Chernobyl, comfortably outside the 'dead zone'. The town now houses some 5,000 nuclear workers and their families. They are bussed in and out of Chernobyl in shifts.

Inside the reactor complex, not far from the sealed-off door to Reactor 4, now entombed in a huge concrete sarcophagus, Alexander Marenich stares for a long time at a simple memorial on a white-washed wall. It is dedicated to Balery Khodimchuk, the first person to die in the accident. He was literally vaporized by the tremendous heat released when the reactor exploded. Not one fragment of his body was ever recovered. Finally, Marenich turns around slowly, sad eyes sunk in a gaunt face. "You know, I didn't feel anything this time," he says, "just a terrible numbness of the spirit." ■

In the path of the dam

Big dams, of which 1,010 (over 15 metres high) are under construction, are adding to the growing numbers of environmental refugees. The Sardar Sarovar Dam on the Narmada River is the centrepiece of a plan to bring irrigation to 1.8 million hectares, along 75,000 km of canals, in what would be the largest such system in the world. The project is also designed to bring drinking water to 40 million people and to generate electricity. But the Sardar Sarovar Dam entails the displacement and resettlement of 245 villages and at least 100,000 people in the states of Gujarat, Maharashtra and Madhya Pradesh. A further 140,000 could be affected by the canals. As yet, nobody has any idea how many people will ultimately be displaced by the project.
Here, *Bishakha Datta* **tells the story of one family's plight.**

BITTU SAHGAL/SANCTUARY FEATURES



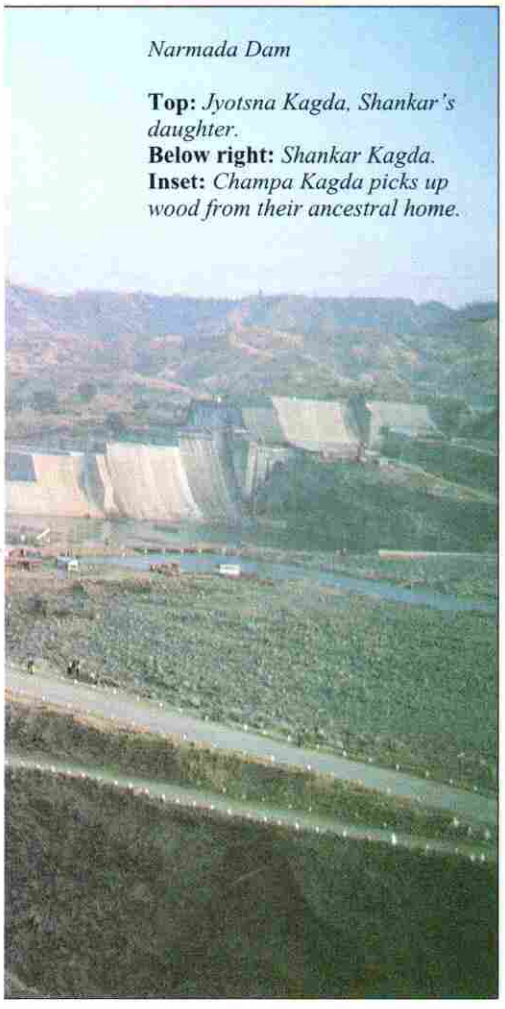
GAUTAM OJHA

Bhula Moti stands on a green hill slope and stares down at the river that swallowed his house. The thatched roof still juts out of the water. A few straggly coconut palms sway in the river like ungainly swimmers. The rest of Vadgam lies underwater, a ghost village sinking to the river bed.

Vadgam is the first village that the dammed Narmada river has drowned in the western state of Gujarat, India. Last monsoon, when the Sardar Sarovar Dam stood at 59 metres, the swelling river flooded Vadgam. This monsoon, with the dam at least 74 metres high, the Narmada again flooded what was left of Vadgam.

Although Bhula Moti lost his house both years, he is not considered a dam-affected person – and is not eligible for resettlement. "Many of the tribals living in these areas don't hold land titles even though they've been living here for generations," explains an activist of the Narmada Bachao Andolan, the organization that is spearheading the protest against the Narmada Dam. "The Government refuses to consider them dam-affected."

GAUTAM OJHA



Narmada Dam

Top: *Jyotsna Kagda, Shankar's daughter.*
Below right: *Shankar Kagda.*
Inset: *Champa Kagda picks up wood from their ancestral home.*

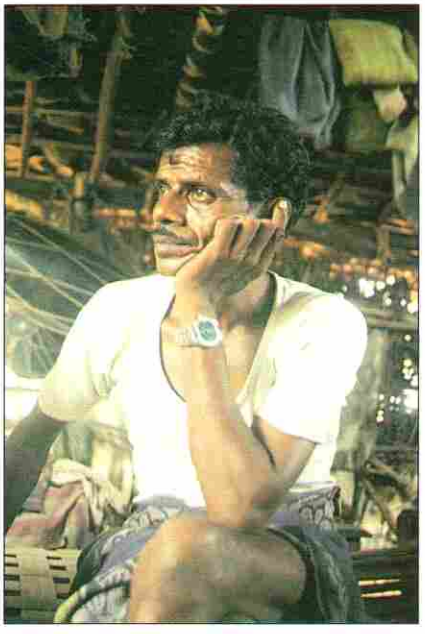
Moti's neighbour Shankar Kagda is only a little better off. In 1988, years after work on the dam had begun, Kagda accepted a Gujarat government rehabilitation package – and moved his family to Malu, a village where he was given five acres of land.

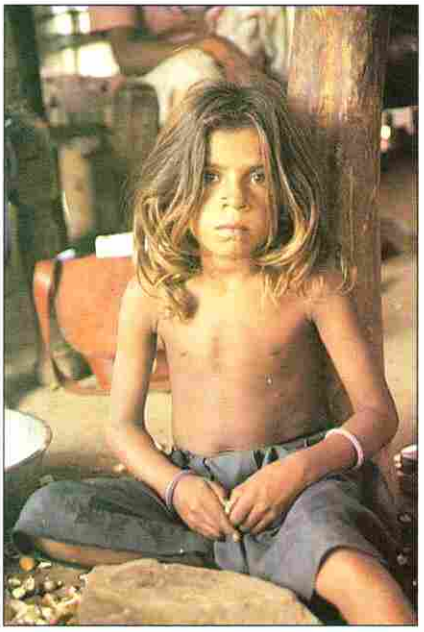
"We lived there for three years," says Kagda. "But the land was not in our name...we had no receipts for it." Burglaries were common, water supplies were sporadic, and the government-built tin sheds, boiled in summer and flooded in the rains. But the biggest problem was insecurity of tenure. "The Government hadn't paid the landowner for the plot," says Kagda. "So during the harvest, he would take away our crop."

For three years from 1988, Kagda – and the 60 other families that had moved to Malu – kept fighting with the Government. "But they did nothing." In 1991, 24 families decided they had had enough. "We decided to move back to Vadgam," explains Kagda. "If we die on the old land it is fine. But we couldn't stay there."

In June this year the Kagdas were one of the eight tribal families holding out in Vadgam, a village which boasted 250 tribal families in the early 1980s. Their homecoming hadn't made it easier for them. Twice – "both times on the 16th" remembers Kagda – the Narmada submerged their ancestral home. "We somehow got the animals and children out and let the rest go."

The Kagdas – Shankar, wife Champa, and four children – have since shifted to a makeshift hut on higher ground. The day I visit, the river has receded. Shankar and Champa walk down to the site of their old house and





gather logs and pieces of wood to reinforce their new hut. They have already saved the carved wooden door; it occupies the driest spot in their new hut.

Lying on a wooden string cot, Shankar explains that it is difficult for them to survive like this. Although the land around their house is extremely fertile, it is futile to farm when a flood can wipe out everything. Shankar works as a daily-wage labourer nearby but he hasn't been to work for the last few days.

"Two days back we heard that we would be forcibly evicted," he explains, unsettled by the news. His daughter, Jyotsna, sits on the ground and peels *mahua* seeds which will be pressed to extract cooking oil. Shankar explains that he has already seen – and approved – an alternate resettlement site in Dharampuri, but will not move there until he is given the land title. "We will go but only when we have been given a full settlement."

All Shankar's resolve turns to mud five days later when over 200 policemen and government officials descend on Vadgam and forcibly evict the few tribal families living there. A few days later, the Kagdas are dumped at the new resettlement site in Dharampuri, without documents, without choice, without anything.

"The grain they have given us is not good enough for donkeys," says Shankar in early July. He has to come to Bombay to protest his plight. Bhula Moti has come with him. Thrown out of his house without alternate accommodation, he is living with Shankar. "What will happen to him?" asks Shankar. Around him, an indifferent city marches to work. ■

Interview:

President Maumoom Abdul Gayoom

of the Maldives

'We must not lose our beautiful country'

The 1,190 idyllic islands that comprise the Republic of Maldives have been facing the fury of rising seas for at least seven years. As unprecedently high waves lashed the capital, Male in 1987, President Maumoom Abdul Gayoom brought his country's plight to the world's notice.

Today, the Maldives ranks among the 10 countries most vulnerable to sea-level rise, some of which have made emergency plans to evacuate their people. President Gayoom is one of the leading advocates of international action to combat global warming. *People & the Planet* spoke to him in his seafront office in Male.

People & the Planet: **You have been campaigning on behalf of the low lying states – threatened with destruction by global warming and sea level rise – for several years. How urgent is the problem and the solution?**

President Gayoom: Very urgent. The threats of global warming and sea-level rise are imminent. If action is not taken now, it may be too late to safeguard such vulnerable states from possible destruction. Even if a significant reduction in greenhouse gas emissions by the industrial countries is achieved within the next five years, which is not very likely, it will take another 20-30 years for the process of sea-level rise to be reversed. In the meantime, the seas will continue to rise.

The 1,190 tiny islands of which the Maldives is comprised only rise one to two metres above mean sea level with no high elevations on any of the islands. This indicates the enormity and the urgency of the problem.

Although small states cannot do much by the way of protecting their countries from such threats, we in the Maldives have been doing whatever we can.

We have made the protection and preservation of the environment a national priority and enacted the Law on Environmental Protection and Preservation in April 1993. In addition, various precautionary measures are also being taken. These include banning coral mining except in designated sites, reduction of duty on coral aggregates, river sand, cement and other alternative construction material, provision of loan facilities for entrepreneurs investing in the production of building blocks, and banning the use of mined coral for development projects.

How seriously is the world taking this issue?

In my opinion, the world is not taking it seriously at all. I don't think the industrialized countries care enough for us. To their way of thinking, we might be a very small nation, with a very small population. So they are not taking the action that they should. Everything's going very slowly. That is the truth of the matter.

New research has suggested that sea rise in the next century may not be as severe as previously thought. Does that reassure you?

Any scientific evidence that diffuses the severity of the threat of sea-level rise gives us some consolation. With all due credit to scientists in this field, it seems that the exact rate of sea-level rise remains unconfirmed and even the recent estimates are wide-ranging.

The global mean sea level may have already risen about 15 cm during the past century. Climate models indicate that the earth's average surface temperature may increase by 1.5–4.5°C over the next 100 years.

Estimates in 1992 suggest that under a business-as-usual scenario, mean sea-level rise would be between 18 and 12 cm by the year 2030, between 38 and 14 cm by the year 2050 and between 65 and 35 cm by the year 2100. Such a scenario could destroy our islands.

Scientific findings indicate that a rise in temperature could lead to coral bleaching. Is this something you are seeing?

We have already observed a certain amount of coral bleaching in our reefs, which means the coral is dying. But this is not necessarily because of the rise in temperature. It could be due to the rise in temperature, it could be due to starfish infestation, it could be due to so many other factors.

But coral bleaching is a bad sign. It means that coral is going to die – and coral is what protects our coasts.

The Inter-Governmental Panel on Climate Change has estimated that the Maldives would need to spend about 34 per cent of its GNP on coastal protection work to protect itself from sea- level rise. Is this something you are considering?

I am not sure the percentage is accurate, but certainly we have to spend a lot of money on that. I'll give you an example.

If you walk around Male, you'll find a sea-wall constructed on the southern side. That was done by the Japanese Government, which did it as a grant. I believe it cost about US$15 million to build that bit – that is only a quarter of the area to be done in Male, and Male is one island out of 1,190. Multiply that by $15 million and you get a huge amount of money. We can't afford that sort of thing. It is not feasible.

Some countries already have an evacuation plan. Is that something you have thought about?

No. Although retreat to a higher ground is impossible, because there is no higher ground in the Maldives, evacuation to another country is something we presently do not wish to think about. We are still hopeful of a favourable change in climatic conditions which would subsequently diffuse the threats to our country and other low-lying island nations. This could happen only if concerted international action to curb environmental problems could be effectively implemented now. I don't think that Maldivians would

ever want to abandon their country and their rich heritage.

How helpful has been the setting up of the Alliance of Small Island States?

AOSIS has its roots in the Action Group formed at the Small States Conference on Sea Level Rise held in Male in November 1989. It was established in November 1990 at the Second World Climate Conference in Geneva.

The Alliance was formed to exert a strong influence on the UN based Intergovernmental Negotiating Committee's (INC's) work to formulate a comprehensive Framework Convention on Climate Change which incorporated the interests of the small island states.

Since its inception in 1990, AOSIS has achieved a good deal. It has initiated the proposal for a greenhouse gas emission protocol within the framework of the UN Convention on Climate Change.

It is working very well within the UN system. It has also helped prepare the chapter in Agenda 21 that deals with the small island states. Of course, we can't do much because we are still small nations. But our voice is being heard to a certain extent.

What hope have you that the Climate Convention will lead to remedial action by the industrial nations?

The industrial nations are the leading emitters of greenhouse gases. They also possess the greatest technological resources. Taking this into account, the Climate Convention indicates that they have special responsibility in tackling climate change.

The developed country parties are required to adopt national policies and take corresponding measures on the mitigation of climate change, by limiting its emissions of greenhouse gases and protecting and enhancing its greenhouse gas sinks and reservoirs. Climate change is a global concern and we believe that the Convention is a good platform where we all stand together to address the issue.

The Climate Convention entered into force on 21 March 1994 after the fiftieth ratification of the Convention. We hope that the first Conference of the Parties to be held in Berlin from 28 March to 7 April 1995 will further strengthen the commitments and will set out targets to limit the emission of greenhouse gases.

The commitment shown by some of the developed nations is commendable. I understand that Germany adopted a National Carbon Dioxide Emission Reduction Programme in 1990, enforced a CFC Halon Prohibition Ordinance in 1991, and requested members of the European Community to dispense with CFCs by the end of 1995.

A recent news report said you were somewhat disappointed that the Global Environmental Facility (GEF) does not mention specifically that the industrialized countries should assist developing countries in meeting the costs for adaption to spin-offs of climate change. Could you talk about that?

Well, GEF is envisaged in Agenda 21. And it calls for measures to be taken to mitigate environmental degradation and subsequently global warming and sea-level rise. But it doesn't mention any specific amounts of money, so there is no significant commitment by parties to the Rio Conference.

It means, in effect, that nothing's going to happen. Nobody's going to give us any financial assistance so that we ourselves can carry out our programme of conservation.

How worried are you that rapid industrialization in countries such as India and China could add to global warming?

India and China's share in emission of greenhouse gases due to industrial activities is insignificant compared to that of the industrialized countries of the North. We do not believe that India's present economic activities could adversely affect us. In any case, every nation has a right to work towards economic progress.

What action would you like to see over the remaining years of this century?

We are looking forward to the forthcoming Conference of the Parties to the Climate Convention to show the road to follow. The general feeling among ▶

the international community is that the most effective tool to address the commitments contained in the Climate Convention would be a protocol on reduction of greenhouse gas emissions. So we would like to see the early drafting and adoption of such a protocol. At the ninth session of the Intergovernmental Negotiating Committee's meeting held in Geneva in February this year, AOSIS discussed the issue of drafting a protocol with G77.

We would like to see an upsurge in new and additional financial resources to meet the costs of implementing measures that are covered under the Climate Convention. There should not be any strings attached for such assistance to small low-lying states.

We also would like to see the transfer of technology to developing countries increased and accelerated. Alternative energy sources are essential for limiting greenhouse gases.

The small low-lying island countries such as the Maldives require special attention. We require additional input from the scientific community to study and discover cheap and reliable coastal defence mechanisms and a special provision to facilitate financial assistance through GEF.

What we require is co-operation: scientific, financial and political.

Have you considered involving tourists in this campaign to save the Maldives from the effects of sea-level rise?

We are thinking about that. There is talk about an environmental tax, and it could bring in a fair amount of money since we have about a quarter of a million tourists every year. But we have to consider it very carefully, because we don't want Maldives to become too expensive for tourists to come and enjoy their holidays here. If we do that, we'll be defeating our own purpose.

But we are helping tourists to be more aware of the problem. When tourists come to the islands, they see for themselves, how low-lying this country is – and what will happen to it if the seas continue to rise. We are incinerating all the garbage on every island, we have banned the dumping of waste material into the reefs and the sea. The tourists see all this.

And we are telling them to take the message back home – so people in their own countries will be aware of the situation of the Maldives. After all, what a loss it will be to them, and to the world in general, to lose such a beautiful country. ■

Migration today:

Millions of people are forced to move by the deterioration and destruction of our environment. Yet this is only part – an integral part – of today's global migration dilemma. Here, *Patrick Taran*, **Secretary for Migration at the World Council of Churches in Geneva, sets out his personal view of what should be done to meet the problem.**

Current assessments are that well over 100 million people are "on the move" across international boundaries – one of every 50 human beings. Add the many millions of others migrating or displaced within their homelands and the figure becomes vastly higher.

So what is to be done? It is essential to get a grasp on the whole of this global migration dilemma. Understanding that most migration is not a matter of choice illustrates the human consequences of many of today's economic, social and political – as well as environmental – malpractices. This will be necessary to define and advocate holistic measures to alleviate the causes of migration. In the meantime, the dignity and well-being of millions of people forced to move cannot be left off our agendas.

War, civil conflict and persecution for political, religious, ethnic or social reasons remain the most dramatic motivations for migration.

Many of those who flee such circumstances are recognized as 'refugees'. The term refugees has a specific definition in international law: a person unable or unwilling to return to his/her homeland for fear of persecution based on reasons of race, religion, ethnicity, membership in a particular social group, or political opinion.

Yet millions of others are also forced to move by very compelling circumstances. Trying to escape starvation or desperate misery may be as compelling a motivation as to escape warfare or death squads. The consequences of environmental degradation are well drawn out in this issue. Other circumstances also compel migration, such as the denial of access to land, and the consequences of development models and economic systems which have failed to provide for people's most basic survival needs.

More and more people who flee compelling situations do not qualify for international legal protection from involuntary return under the United Nations Convention and Protocol Relating to the Status of Refugees. The definition of 'refugee' in those treaties is simply not adequate to protect vulnerable people in today's world. This explains the urgency of the need to redetermine who needs protection and has a claim to international legal recognition.

Violence and restrictions

A 1991 report by the Working Group on Solutions and Protection of the United Nations High Commissioner for Refugees (UNHCR) identified seven categories of persons "associated with the search for asylum and refuge." These categories included "others forced to leave or prevented from returning because of man-made disasters" and "persons forced to leave or prevented from returning because of *natural or ecological disaster* or extreme poverty."

No consensus has emerged on these questions. The views of churches and non-governmental organizations need to be presented. Without moral per-

the global challenge

spectives, the outcome will be determined by restrictive and often non-humanitarian interests of governments.

The rise in rejection and restriction against all categories of migrants urgently demands a concerted response. Violent attacks on refugees and migrants throughout Europe have been widely reported, but brutality against foreigners is occurring in all regions of the world.

These attacks must be stopped. Community organizations, churches and non-governmental organizations have a particular obligation to take the lead in upholding the basic dignity of all people.

Denunciation of any attack on or hostility against any foreigner or minority group must be part of affirming their wholeness as human beings and as rightful members of our communities. It implies developing a new paradigm of the multicultural reality of societies today and providing a framework to strengthen mutual respect, tolerance and pluralism among the different residents of our countries.

It is not enough to moralize on this. We must also tackle the background to such attacks. Many of those who express hostility are the marginalized and unemployed in their own countries. The lack of response to this marginalization coupled with the absence of multicultural perspectives makes it all to easy to "blame the foreigners" for social ills.

The other part of this challenge is to confront the increasing restrictiveness of government policies with their undertones of racism. These are most visible in Western attitudes towards persons from countries elsewhere. But restrictive measures and hostility towards foreigners are also increasing in the South.

Humanitarian awareness must be restored to the public discussion on refugees and migration and to the formulation of government policies. Campaigning to promote ratification by governments of the 1990 United Nations International Convention on the Protection of the Rights of All Migrant Workers and Members of Their Families can include highlighting the role and contributions of migrants in many countries. It can provide standards for appropriate government policies.

Root causes

Environmental destruction and the failure of 'development' models and economic systems to provide employment and meet basic human needs must be remedied if people are to be able to stay at home.

This requires far more profound solutions than those posed by simply reorienting existing patterns of trade, investment and international development aid.

Social and political peace will only come about when some measure of economic and social justice is assured. Economic justice can only come about through a global shift to more sustainable and participatory development models and economic processes.

Migration is about justice because, so often, uprooted people are the result of injustices suffered by vulnerable groups. The globalization of the 'market economy' is coupled with the de-regulation of many national economies. While these changes further benefit powerful groups, they are accompanied by continued deterioration of social security systems and 'safety nets' for marginalized people.

The current trends reflect the ideology behind today's dominant economic model, in which 'to have' is valued over and above 'to be'.

If justice implies that every person should be able to live in decency, then it means that there should be a minimal level of consumption and access to basic needs. As the world's resources are limited, then bringing about justice may also require setting some upper limits to consumption. Certainly, a Christian understanding of the Biblical meaning of justice implies that all people in each society should participate in the decision-making on these questions.

The link between migration and peace is evident. Thus the importance of conflict resolution and peace-making work cannot be understated.

There is certainly a clear link with the concern for maintaining our environment. The trend towards ever bigger, mechanized agri-business projects, many aimed at cash crops for export, is directly reducing job opportunities for farmers and peasants in many countries around the world – and not only in the South. Increasing rural unemployment continues to drive migrants to the world's overcrowded cities. 'Modern' methods of agriculture (heavy use of pesticides and chemical fertilizers and the emphasis on monoculture, for example) have also often led to crop failures and environmental devastation.

The right to remain

Governments need to be reminded that assuming a defensive posture and adopting restrictive deterrence measures will not lead to resolving the underlying causes of migration. Churches have been part of efforts to develop the principles governing the rights to leave and to return to one's homeland. The best solution, and the next major challenge is to develop and assert a *fundamental right to remain* in one's homeland, in one's community of origin.

The complementary responsibility of governments and the international community would be to direct economic assistance and political solidarity to upholding and underwriting that right. Such an orientation could encourage setting policies that focus precisely on providing for sustainable employment and economic opportunity. It also would be appropriate to propose that a "migration impact statement" be required in international aid, investment, trade and development project proposals, to ensure that job creation and migratory impacts are explicitly considered.

We must take bold steps towards shaping a more humane world. Otherwise, we will see ever more people seeking to escape unlivable situations with nowhere to go, while ever more violent reactions occur in our contemporary societies. ■

Associates' News

Everglades

Two important meetings will take place in the United States in November to capitalize on the momentum created by the International Conference on Population and Development held in Cairo in September. Both events are under the auspices of the National Audubon Society.

National Audubon Society

The first, from November 11 to 15 in Fort Myers, Florida, is Audubon's biennial convention. It will focus on issues related to People, Water and Wildlife. The agenda includes general sessions on the Everglades, Population and Endangered Species, each followed by mini-sessions on the same topics. Among the speakers will be biologist Paul Ehrlich and author Peter Matthiessen.

Immediately following the convention participants will be able to take a special Mobile Learning Lab tour through the greater Everglades ecosystem to see how development impacts on the system and why difficult choices must be made to restore America's largest wetland.

This will be followed by a major conference on population in Miami. Several prominent population, environment and development organizations are joining Audubon in sponsoring this event. Moving spirits behind the initiative include Patricia Waak, Director of Audubon's Human Population and Resource Use Department and a member of the US delegation to Cairo, and Tanya Thomas, Audubon's Grassroots Co-ordinator who was co-chair of the US Network for Cairo.

Guest speakers include Norman Myers, Guadelupe de la Vega, Counselor Tim Wirth and Arvonne Fraser, who will lead the US delegation to the forthcoming International Women's Conference in Beijing. Vice-President Al Gore has been invited to address the conference.

The aim is to look beyond Cairo to set an agenda on population, poverty and environment in the United States and around the world.

The focus on US population policy is particularly significant in view of a recent report quantifying the environmental damage done to the global environment by increasing numbers of high-consuming Americans. Paul Harrison, writing in *The Amicus Journal*, published by the US National Resources Defense Council, points out that some 2.5 million of the 6.6 million people added to the population of the developed world each year are in the United States. The combined effects of population growth, consumption and technology in the United States have an impact on the environment greater than that of other developed countries and far greater than the countries of Africa, South America and Asia.

■ *Human Population and Resource Use Department, National Audubon Society, 4150 Darley Avenue, Suite 5, Boulder Colorado 80303, USA.*

Darién Gap road

The lives of millions of people, including the indigenous inhabitants of a World Heritage park, will be changed if a road across the Darién Gap that divides North and South America is completed as planned.

The Darién Gap is a 115-kilometre stretch of jungle, swamp and mountain on the Panama-Colombia border that is home to 30,000 Embera, Wounaan and Kuna Indians. The road is intended to complete the 15,000-kilometre Pan American Highway from Alaska to Patagonia.

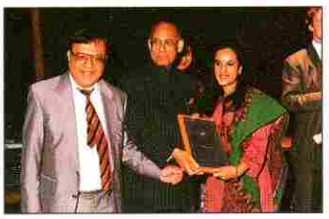
Alarm about the consequences of this new 'trade route' will be raised by an ambitious new film from the Television Trust for the Environment which will trace the whole course of the highway, picking up environmental stories along the way. Tentatively titled *The American Way*, the film will be based on BBC-funded research which has already uncovered lively, contrasting stories about colourful characters who live or have worked in the wide range of ecosystems traversed by the highway.

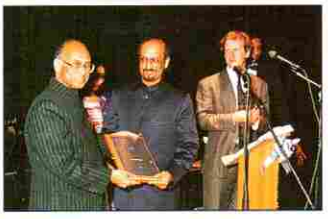
■ *Contact: TVE Centre for Environmental Communications, Prince Albert Road, London NW1 4RZ, UK. Tel: (4471) 586 5526. Fax: (4471) 586 4866.*

Ancient religion: green business

The Jain community in Britain has launched an environmental award that springs from the teachings of their ancient Indian faith and their commitment as the eighth faith to join the WWF Network on Conservation and Religion.

The first Ahimsa (Non-violence) Awards were made earlier this year to the Jain business and Jain community group which had most effectively demonstrated environmental application of these two principles (above).





Dr David Wheeler (below), environmental manager for the Body Shop and one of the judges, presented the award in the business category to the papermaking company, P Garnett and Son Ltd. He said that the judges were deeply impressed by the commitment and success with which this conventional business had taken on environmental principles throughout its processes from purchase of raw materials and manufacture to waste disposal.

The Ahimsa Award in the Community category went to the Oshwal Youth Group for their outstanding programme to re-introduce the ecological principles and practices of Jainism to the Oshwal Jains in the United Kingdom. In 1992, the youth group organized the first Jain Environment Day attended by over a thousand people. A similarly successful day was staged in 1994. The youth group have also established a nature reserve within 80 acres of ancient forest and grassland at the Oshwal Centre.

Energy warning

A bleak outlook for the health of the planet is predicted by the National Audubon Society if energy-efficient technologies and alternative energy sources are not rapidly introduced in all countries.

In a new publication which relates energy use to population growth, Audubon raises the alarm over the practices in many newly industrializing countries, particularly China and India, which are following patterns of 19th century Europe and the United States: abundant fossil fuel, energy intensive technologies, exploding populations and rising consumerism.

In the race for development, poor countries are plunging into debt to buy the same energy-intensive technologies that industrial nations are at last seeking to modify, and which will have devastating effects on the environment.

The report quotes figures to show that because of much

greater per capita consumption of energy, low population growth in developed countries will contribute as much to increases in global energy use to the year 2020 as the much larger population growth in developing countries. But between 2020 and 2050, as developing countries move form non- commercial to commercial forms of energy, population growth in these countries will be three times as important a cause of increased energy consumption as population growth in developed countries.

■ Population and Energy *by Michael Weber with Thomas Seery and Alex Russell. National Audubon Society, June 1994.*

Asian success

Family planning has dramatically decreased population pressures in Asia, according to a statistical analysis of 10 South and South-east Asian countries published by the Population Reference Bureau (PRB).

The fertility level in South-east Asia, with a larger percentage of couples practising family planning, is 30 per cent lower than in South Asia. The study supports the importance of education for women but also the evidence that even in the absence of significant economic and social advancement, family planning programmes can achieve remarkable results.

Nevertheless PRB cautions that Asia continues to face population challenges. Fertility, at 3.2 children per woman, is still relatively high and if China is excluded, a typical Asian woman would bear about four children. In addition, the number of women that family planning programmes will have to reach will increase from 134 million in 1990 to 245 million by the year 2025. To achieve stationary population size, countries must be prepared to serve triple today's number of family planning clients by the year 2025.

■ A Demographic Portrait of South and Southeast Asia. *Population Reference Bureau. Washington DC. April 1994.*

Migration chart

Migration flows globally and within regions of the world between 1980 and 1989 have been charted by Population Action International (PAI) in a colourful and fact-packed wallchart.

Accompanying text examines historical trends. PAI projects that while migration is likely to increase in the short-term, due to the economic disparities between countries, economic development, helped by efforts to slow population growth, can be expected to slow migration in the long run.

■ Global Migration: People on the Move. *Population Action International. June 1994.*

New films

The United Nations Population Fund (UNFPA) has issued two films this year, both produced by the British film maker Richard Stanley. The first film, *Question of Choice*, addresses the main theme of 1994 *State of World Population Report*, namely maternal health. According to UNFPA, film is intended for use at meetings, workshops, conferences, special events and television broadcast.

The second film, provisionally entitled, *Making a Difference: UNFPA at 25*, presents an overview of what the Fund has accomplished over the last 25 years, emphasizing their far-flung national programmes.

■ *Copies of these films can be obtained by contacting: Christian Delsoe, IERD, United Nations Population Fund, 220 East 42nd Street, New York, NY 10017. Fax: 1-212- 297-4918*

Inreach

Thousands of potential family planning clients who spend time within hospitals and clinics for other health-related reasons are outside the range of conventional community outreach programmes, according to the results of a pilot study in Kenya carried out by the AVSC International.

AVSC has developed a concept called 'inreach' to fill this gap. A new working paper examines the idea and describes the Kenya findings. Clients who visit health facilities for other reasons are often interested in receiving information about family planning services, but many health care workers do not know how to refer their patients for these services. In Kenya, AVSC experimented with specially-tailored education materials and orientations for health personnel and found that the number of family planning clients increased as a result.

■ Inreach: Reaching Potential Family Planning Clients Within Health Institutions. *AVSC International.*

Egypt initiative

Contraceptive prevalence rose significantly in Minya, a rural governorate of Upper Egypt, as a result of an 18-month pilot project under the auspices of Johns Hopkins University's Population Communication Services.

This agricultural area of 3.2 million inhabitants was chosen because it had, at 16.6 per cent, one of the lowest contraceptive prevalence rates in the country and its population was expected to double in less than 25 years.

Fourteen collaborating agencies were involved in The Minya Initiative, from national and local government to the private sector, including the churches. Before the project began, the agencies working the area were frequently competing for the same clients; religious views on family planning were misrepresented; the quality of services needed to be improved, and contraceptive methods were surrounded by rumours and misinformation.

The objectives of the project were to eliminate these problems, mainly through decentralizing the planning and implementation of family planning information, education and communication (IEC) activities, involving local leaders, building local institutional capacity and improving the image of both service providers and contraceptive methods.

Local people, including school children, were involved in the creation of educational materials, including popular songs and video programmes.

At the end of the pilot project contraceptive practice had risen to 30 per cent, with 4,400 married women starting to use contraception as a result of the project

It is hoped that the Minya Initiative can be transferred to other Governorates of Egypt.

■ The Minya Initiative. *Johns Hopkins University Center for Communication Programs, Baltimore.*

A victory for women

Now that the dust has settled, it is possible to see clearly that the Cairo conference was a remarkable achievement, as far as it went.

The three-year long preparation, and the involvement of non-governmental groups, many of them representing women's concerns, resulted in a Programme of Action that took a new human-centred approach to thinking about population and development.

Instead of demographic targets, it puts in place a 20-year plan and spending commitments for increasing the investment in women's reproductive health, including quality family planning services, and in combatting sexually-transmitted diseases.

It supports this with specific goals for reducing maternal, child and infant mortality, extending primary education to all children by 2015, and for pushing ahead with secondary education, with special attention to girls.

It expands the frontiers of action over women's development further than any previous UN document. A chapter on empowering women has new recommendations concerning violence against women, combatting gender discrimination, enforcing laws on the age of marriage, eliminating female genital mutilation, encouraging father's responsibilities, and increasing the earning power of women.

But perhaps the biggest breakthrough is in the treatment of reproductive health and family planning. This defines the scale of the unmet need, what care in this area really means, it emphasises the importance of quality, the needs of men as well as women and the urgent help required by adolescents. NGOs are recognized as having a continuing and growing role in this.

It deals, at last, with the growing epidemic of unsafe abortion, which kills some 200,000 of the 500,000 women who die each year from complications of pregnancy and childbirth, not to mention the hundreds of thousands who suffer from abortion-related illnesses.

A world conference of 180 countries inevitably found difficulty in agreeing on words to define the principles and ideal practice in such culturally sensitive areas. The opposition of the Vatican to modern contraception and to abortion under any circumstances, and the fears of many Muslims of an erosion of their values, were two of the more difficult obstacles to agreement.

The outcome is a text, with some ambiguities and caveats, but essentially unscathed by those who opposed its more radical and liberating elements. The term 'sexual rights' has disappeared, and the equally difficult concept of 'sexual health' has largely been subsumed within 'reproductive health'. The reference to abortion has been weakened but the central message is intact, calling on governments to "strengthen their commitment to women's health, to deal with the health impact of unsafe abortion as a major public health concern and to reduce the recourse to abortion through expanded and improved family planning services".

The International Conference on Population and Development, which took place in Cairo from September 5-13, was a victory for enlightenment and for women, writes *John Rowley*, introducing a nine-page report on the event. But it left a lot of questions about development, the environment and migration unanswered.

The importance of sex education for teenagers is retained, despite some reservations, and a compromise text affirms the need for adolescents to have access to reproductive health services, subject to 'parental guidance' though not parental consent.

At a time when nearly a billion teenagers account for one in four pregnancies and around a third of all abortions (many of them unsafe) this is an important opening to providing them with the information and services they need.

Two uncertain questions hang over this agreement. Will governments take it seriously and fund it? Does it signal, as some hope, an understanding by policy makers that dealing with population is part of a necessary investment in people, without which none of our development and environmental problems will be solved?

Educating girls, preventing child deaths, promoting safe motherhood, giving access to user-friendly family planning services are all 'development' activities and all should help reduce family size. Slowing population growth will, in turn, feed back its social, environmental and – in many cases – economic benefits.

In the view of Steven Sinding, of the Rockefeller Foundation, Cairo should be "part of a larger and very important process of international and national resource reallocation" which will, hopefully, be carried forward at the Social Summit in Copenhagen in March next year.

One suggestion formally forwarded from Cairo to Copenhagen was set out by Gustave Speth of the UN Development Programme in the last issue of *People & the Planet*. This is that 20 per cent of all donor aid should go to the social sector and that a similar proportion of all developing country spending should also go to 'human development'.

The indications on funding from Cairo are mixed. Many Northern governments appear ready to spend more of their existing aid funds on the objectives set out in this Programme. The amounts are not large. The total required by the year 2000 is put at $17 billion, of which about a third or some $5.7 billion would come from the international donors, the other two-thirds continuing to come from the developing countries.

The United States has doubled its annual population budget to $600 million in the last two years, Japan says it plans a tenfold increase to $400 million, Germany has promised $2 billion over the next seven years – averaging $280 million a year.

But none of the rich countries has indicated a willingness to find addition-

Dr Nafis Sadik, Executive Director of UNFPA and Secretary General of ICPD (below), called the Conference an historic achievement (see page 41).

MAGGIE HALLAHAN/NETWORK IMAGES

al overall aid funds. Many fall well below the 20 per cent level of spending on social sector programmes. And aid, generally, has fallen further behind the long-term target of 0.7 per cent of government spending, reaffirmed at Cairo. Last year it dropped from 0.34 to only 0.29 per cent.

So if the Northern countries are really to meet their population funding targets it will mean a change of priorities, unless additional aid funding is found. Non-governmental watchdogs will have to look closely and lobby hard to see that this does happen, and in a way that affirms the importance of human development.

Many African countries pointed out that they will not be in a position to provide two-thirds of the needed funding, but developing countries, too, will have to follow the example of those like Tunisia which has steadily expanded its expenditure on reproductive health and family planning as demand and services have grown. The message of Cairo is that countries such as Pakistan, which spends less than 6 per cent of government funds on health and education, will never solve their population, development or environmental problems until this investment is increased.

This, of course, opens the door on what Cairo did not touch upon: the growing imbalance between rich and poor in the world, and how this relates to population, development and the environment. In a lecture on feeding the world of 10 billion, the eminent agronomist, Dr M S Swaminathan, argued that this just could not be done while 84 per cent of the world's wealth is used by one fifth of the people, leaving another fifth with just 1.4 per cent. With great efforts the food might be produced, but many people would be unable to buy it.

Jan Pronk, Minister for Development Co-operation in the Netherlands, put his finger on a related point when he questioned the fact that "structural adjustment programmes are forced on developing countries, while at the same time a matter of such vital importance to the future of the world, such as the adjustment of western economies and lifestyles, is postponed again and again."

Arguments with the Vatican left little time in Cairo for discussion of the unsustainability of maintaining and expanding Western styles of energy consumption and waste emissions, or the impact of population growth in North America, for example. As one delegate pointed out, the 24 million people added to the population of the United States in the last decade will consume more of the earth's resources than the entire population of Africa. According to the latest census predictions, America's population will grow by over 120 million by 2050.

Equally, no time was spent in discussion on the local impacts of population growth in developing countries. But as Elizabeth Dowdeswell, Executive

Bishakha Datta

JEREMY HAMAND/IPPF

Keeping a close watch

"It is not defence budgets that should remain untouched, but health and education budgets". – *Maria de Lourdes Pintasilgo, President, Independent Commission for Population and the Quality of Life.*

"We're not naive," says Susan Davis, Executive Director of the Women's Environment and Development Organization (WEDO), which convened the Women's Caucus at Cairo. "We don't believe the transformation is going to come from one conference."

In line with this belief, the caucus has already created 'Women Watching ICPD', a group that will monitor if governments, donors, and service providers stick to the commitments they made in Cairo. Six NGOs from the North and South – including CEWI, a group of Norwegian groups – have already agreed to participate in the post-Cairo task force.

"We will ensure that coercion is stopped and that positive recommendations get implemented," says Davis. "We will watch the budgets. We will watch the allocation process. We will watch the decision-makers. And we will watch the assholes." The post-Cairo task force will also try to ensure that NGOs monitoring international financial institutions make gender issues central to their effort – and that issues that didn't get heard at Cairo make it to Copenhagen and Beijing.

Women contend that it is up to NGOs to ensure that rhetoric becomes reality. "Accountability is really in the NGO court," says Peju Olukoya of the Women's Health Organization of Nigeria. "Having worked so hard, having stepped on so many toes, we will lose credibility if we let go now."

Olukoya says Cairo succeeded in "opening a big wide door" for women to take part in UN processes. "Never has a document involved so many women in the affirmation." While Olukoya finds the 112-page document "rich," Gita Sen of Development Alternatives with Women for a New Era (DAWN) says the document is "winning our hearts and minds."

The women's movement views the shift in language as its biggest gain. "After all these years, the world is finally talking about reproductive health policies," says Sandra Kabir of the Bangladesh Women's Health Coalition, "not just about population policies. People are no longer talking about population as a demographic tool."

A broader reproductive health emphasis is more meaningful, notes DAWN's Sen, because "it acknowledges women's health needs and concerns as the centre of the issue." Sen is particularly pleased that the plan has clearly defined reproductive rights – and is the first to mention the underlying issue of sexual health. "To get the world community – which is largely men in power – to talk about these in this kind of forum is a very big thing."

Women – and their priorities – climbed high on the global agenda at the Cairo Conference. But women's advocacy groups now face a slippery ride down in translating the mountain of talk into action on the ground.

If Sen appreciates the candour with which reproductive and sexual health has been treated, black women in the United States highlight their gain from the amendment of paragraph 3.16 – which now recognizes poverty in developed countries as a problem. "That's a small thing for the world," says a women's activist. "But for poor black women in the US it's a big thing."

But even if poverty in the developed world has been recognized, development, the D in ICPD has been totally sidelined, say some Third World women. "Government cutbacks in the social sector are denying women access to basic nutrition, sanitation and water," says Sylvia Claudis of the Philippines-based group, Gabriella. "With millions affected in this manner, what does the inclusion of a few words in the text mean?"

Others point out that the document discusses women's empowerment within a limited context. "In spite of the big claims, we don't think the Cairo Director of the UN Environment Programme pointed out, "Population growth has caused the 'resource pie' to shrink, leaving people without enough food and literally forcing them into acts of environmental degradation."

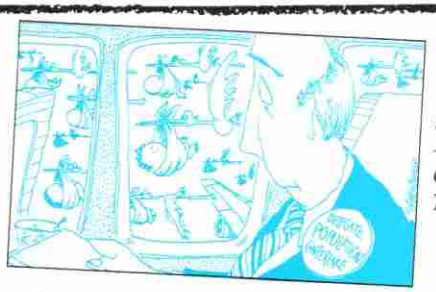
Mrs Gro Harlem Brundtland, Prime Minister of Norway, warned the conference that "we may soon be facing new famines, mass starvation, destabilization and even armed struggle as peoples compete for ever more scarce land and water resources". Ravony Francisque, Prime Minister of Madagascar blamed population for the "seriously deteriorated" environment in his country.

The two pages in the 113-page Programme of Action, contained generalized calls to governments to "modify unsustainable consumption and production patterns", to "implement policies to address the ecological implications of future increases in population numbers" and for more research into these questions. But nothing of substance was proposed, or discussed, despite the efforts of the Swiss delegation to table some specific recommendations.

The question of migration raised its head, with a momentary dispute over the reunification of families, but was not pursued. The working group on migration, lead by Egypt, suggested that a new world conference on migration and development should be organized by the United Nations in 1997.

Given the complexity of the issues, and the difficulty of pushing through the new women-centred population policies, it is not surprising that the issues of equity, environment and economics in relation to population, got short shrift. But they will not go away.

In the meantime, something quite revolutionary has happened. Thanks to the insistence of women themselves and immense media coverage, the world has woken up again to the population problem, and seen its solution in quite a new light – through paying attention at last to the empowerment, reproductive health and freely-made choices of women as equal partners with men. ■



"Every country needs a population policy." – *Margaret Catley-Carlson, President, The Population Council.*

conference will empower women in a real sense," says Jaya Velankar of the Bombay-based Forum for Women's Health. "Women's empowerment is being seen in a very instrumentalist fashion."

For instance, says Velankar, the document promotes female education not as an end in itself, but as a means to get women to marry later, and have fewer children. "This is like giving a new impetus to population control in the guise of sustainable development and women's empowerment."

Such reservations notwithstanding, most women equate Cairo with victory; after all, governments are finally beginning to echo what the women's movement has been saying for years: empower women; make men responsible for family planning; acknowledge unsafe abortion as a public health problem; reduce maternal and infant mortality; and end gender discrimination, violence, and manifestations such as female genital mutilation. "We've got 98 per cent of what we want," says Joan Dunlop, president of the New-York-based International Women's Health Coalition.

But to get what they want, women's groups have had to trade in their oppositional politics for collaboration. "In order to make change, the women's movement has had to become real players in the process," says Davis. "We've had to become very organized and serious." The women's movement took Cairo head-on, starting its preparations almost as soon as the Earth Summit ended at Rio.

"For the three years of preparation for the ICPD," writes journalist Rebecca Foster, "women pored over documents word by word, concerned their government delegates to have a word about those words, caucused in stuffy basement rooms to monitor the politics of the words, led round tables to agree on the meaning of the words, and held press conferences so that their words were unequivocally understood."

The results of this Herculean effort were evident both at the conference – where more than 100 women sat on official delegations – and in the resulting document, which contains several amendments proposed by women's groups. "Every time the UN burped out a document, we would respond with a line by line critique," says WEDO's Davis. "Not one word of that document has escaped our attention."

For women all over the world then, Cairo has come to be associated with victory as much with pyramids. "We've introduced feminist discourse into world governments," marvels Davis. "Now a term like 'gender equality' is used as normally as 'mother's milk.'" ■

Bishakha Datta is a People & the Planet *correspondent based in India.*

Rami Chhabra

Can spirit of Cairo survive?

Some questions lingered uncomfortably in the Egyptian air even as, at the end of the conference, the spirit of Cairo popped effervescently like champagne.

One, how strong were the subterranean currents left simmering under the surface of the great compromise, following a historic confrontation that had unleashed the genie of sexuality and 'sexual rights' into the political arena? How much of the confrontation would resurface over time in national settings and elsewhere?

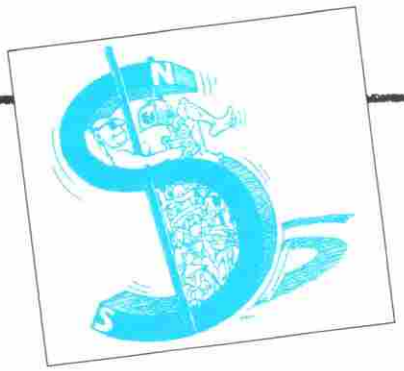
Two, was it necessary, much less politic, to have allowed the development of circumstances that led to such a headlong collision to Cairo?

While Nafis Sadik, Secretary-General of ICPD, placed into perspective the inevitability of diverse viewpoints in today's fiercely multicultural world, there were others from the South who openly speculated whether the strident sexual perspective was not a red herring, deliberately planted to break the South's political solidarity and divert attention from more critical economic and development agendas. More were clear that the ICPD added to the population conference had remained largely unaddressed.

The extent of paranoia varied. But few found the sums adding up to the heralded conceptual breakthrough of a paradigm shift – holistic, humane, with people (and women in particular) central. The resource commitment of $17 billion certainly triples the availability of funds to the reproductive health area. But it falls short even of the primary health requirements. And with the identified crucial social development aspects of education and empowerment, alongside other social sector needs, having to await the outcome of the Social Summit in Copenhagen, the actuality of the ambitious new vision is far removed from becoming a revolutionary social compact.

Considering that the donor contri bution towards the reproductive health package is estimated at a modest $4-5 billion addition, the failure to volunteer this funding and set the pace for accelerating social development spending within the developing world, further hollows the hyperbole for the human, holistic paradigm. Many from the South fear a continuing inundation of

"The economic weapon – born from the concept of the market economy – has reduced three-quarters of the world to misery and hunger".
– *Jacques-Yves Cousteau, The Cousteau Society*



contraceptive devices with little means to change the context in which they could be appreciated and accepted.

On the plus side, the conference firmly set into motion positive processes for NGO participation in a spirit of partnership within the UN systems, and in the formulation of national policies and programmes of their respective countries. Limited access to the deliberations and daily systematic briefings certainly helped, while the earlier stress on NGO participation within official delegations created more space for beyond-governmental expression. But it was only a beginning. As one Pakistani NGO representative put it: "They don't really hear us. We speak a different language and it has no UN interpretation as yet".

The NGO forum provided a creative, if somewhat anarchic, ferment of ideas. It was far more outspoken of the South's distress on the bypassing of critical development and environmental issues. Questioning of market economy polices, that were affecting the political autonomy of the poorer nations and eroding their economic capacity to address their own basic needs, was a dominant concern on which most South NGOs united.

The Women's Caucus provided the most magnetic centrepoint of the NGO Forum and an informed nerve centre within the ICPD. Its lobbying network could not be ignored. But Northern origins, orientation and domination were unmistakeable, despite the seemingly democratic processes demonstrated by rotating Chairs from different regions.

The Texan-like, floppy-hatted Bella Abzug held sway. At one point an airy flick of her hand floated away the whole continent of Asia, alongside the isles of the Pacific and the Caribbean, to irrelevance, on the plea that time constraints precluded the assembly to hear the reports of these regions.

A very Western world view of sexuality permeated the women's caucus lobbying. The Southern women's groups, many from the Indian subcontinent, were more concerned with political ideologies and their development as a counterforce to international multinational scientific and corporate lobbies on pharmaceutical and contraceptive technologies.

At the official meeting, the voices of China and India – the worlds's two most populous countries, between them accounting for a third of the global population – were altogether strangely subdued. Both countries appeared to have, independently, taken a strategic decision to keep a low profile; presumably, to avoid any direct criticism of their respective official policies and programmes.

This reticence was regrettable in the sexuality debate. Both countries are noted for a very different sexual ethos from the Western experience, particularly with regard to women. It could have helped to focus the conference more on sexual responsibility than sexual rights, particularly in terms of male responsibility and double standards. This may have pointed to more common ground.

India, as the largest country of the Indian subcontinent, should have owned a special obligation to offer another dimension to the debate. The articulation of a beyond-Islamic South Asian world view, secularly progressive but firmly rooted in cherished traditional values, could possibly have served as an useful bridge between the strident iconoclasm of the Western feminist brand of liberalism and the rigid religious fundamentalism.

But India was more concerned about its political equations vis-a-vis Kashmir, and chose to abdicate any attempt at leadership. While it played a quiet role within G-77, the unique perspective it could have bought centre-stage went by default and Pakistan, who took the reins for this region, remained rooted in the Islamic world.

The great compromise of Cairo made a spectacular media happening. But the consequences of Cairo may yet have to be faced, while Copenhagen will prove, or disprove, how genuine is the spirit of the Cairo Programme of Action. ■

Rami Chhabra is a well-known journalist and women's rights activist based in Delhi.

African perspective:

Ajoa Yeboah-Afari

Untying the economic knots

The African Population Commission is to meet towards the end of the year to review and assess the Cairo Conference, to see what measures Africa needs to take towards implementing the ICPD Programme of Action. However, for many African participants, the low profile given to the 'Development' part of the conference title was as good as saying that the Programme of Action should be put on hold until further notice.

A number of participants indicated that it was a case of the spirit being willing but the flesh being weak. As Mr Muraguri Muchira of the Kenyan delegation explained, the problem for Africans lay not with the Programme, but with finding the funds to implement it and the targets set in the document for the year 2015.

It is a problem that the Organization of African Unity (OAU) has given much attention to, said Mr Abdel Rahim Dirar, Director, Economic Development and Co-operation of the OAU. He listed the priorities that would be competing with the Programme of Action for fundings. "Practically all the infrastructure in the African countries is completely destroyed after long years of war and Structural Adjustment (SAP)."

Mr Dirar said even health services and education in the various countries had been affected by SAP. These problems had in turn been compounded by the crippling debt situation. "The debt issue is practically siphoning off the resources from the African continent in some cases. For example, in the case of Algeria, in 1992 they paid 83 per cent of their total export earnings in debt repayment." He pointed out that those

"Female genital mutilation affects about 100 million women in the world, with at least 2 million girls undergoing the rite each year."
– *Berhane Ras-Work, Inter-African Committee on Traditional Practices Affecting the Health of Women and Girls.*

countries would have to meet the urgent needs of their people from the little resources left over, and according to their priorities allocate some to population, "but I don't think anybody will go out of his way to raise the resources (for population)."

It was such concern that prompted the African Group (of some 45 countries) to meet on the second day of the conference, at the ministerial level, and set down their needs in a memorandum

African countries had a low profile in Cairo despite the fact that Africa's population is growing faster than any other region on Earth.

requesting more attention to development issues in the ICPD agenda, stressing the continent's economic straits. The memo was a spin-off of what is known as the Dakar Declaration, a statement of the African situation agreed upon at the ICPD preparatory conference held in Dakar, Senegal, in December 1992.

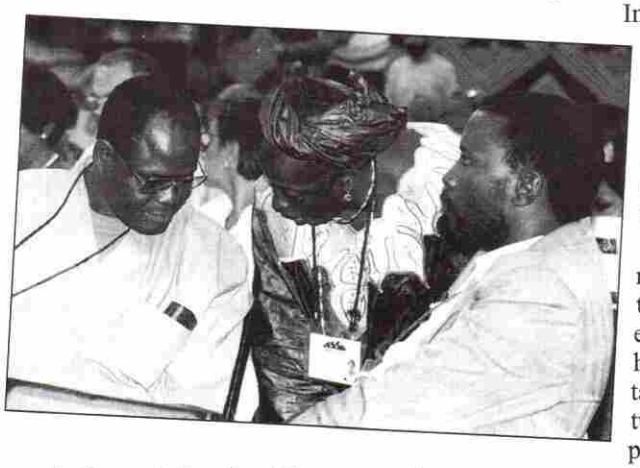
To Mr Ahmed Bahri, Chief of the Population Division of the UN Economic Commission for Africa, one of the most striking suggestions in the Dakar Declaration was the idea of swapping debts for population and environment programmes. "If this idea is put into practice, it will be very interesting because instead of paying back millions of dollars each year, Ghana, for example, could just put aside cedis (local currency) to finance population and development programmes in the country and Ghana's debt will be diminished accordingly."

In the event, however, this and other innovative ideas for untying Africa's economic knots were overshadowed by other issues, notably the controversy over abortion, to the disappointment of the African delegates. However, Mr Bahri had a different way of looking at this. "(The ideas) were not given time in the conference, (but) even if they're not in the Programme of Action, it doesn't matter because Africa goes by the Dakar Declaration. It's their reference in future negotiations."

However, not all Africans agreed that the continent had been sidelined. Mr Benjamin Gyepi-Garbrah, Secretary of the African Population Advisory Committee, Africa Technical Department of the World Bank, preferred to see it as "a challenge to us Africans, for us to look at (the situation) so that we come up next time stronger than before."

The leader of Ghana's delegation to ICPD, Dr Mary Grant, also saw the conference as marking progress towards the goal of empowerment for women, particularly African women. In her view, the revision of the Programme of Action means, "we've not got all that we (African women) wanted this time, but it'll come."

Given the economic problems of the continent, however, many observers here believe it will take a long time to turn the Cairo proposals into action. ■



JEREMY HAMAND/IPPF

Ajoa Yeboah-Afari is a freelance journalist working in Ghana. She was a member of the reporting team of ICPD Watch, *the women's newspaper produced daily at the Cairo conference.*

The relevance of religion

Notable among the many well-attended meetings at the ICPD NGO Forum was the Religious Leaders' Seminar, organized by IPPF, at which representatives of the Buddhist, Hindu, Roman Catholic, Protestant and Muslim religions gave their views on population and development. One of the Muslim speakers, the Pakistani religious scholar Dr Riffat Hassan, made an outspoken defence of women's rights and access to family planning under Islam. Here are some extracts from her speech.

JEREMY HAMAND/IPPF

"Muslim women are subjected not only to physical and economic subjugation, but also to moral, intellectual and spiritual degradation through a misrepresentation of the essential message of Islam...

"Having spent 20 years doing research on women-related passages in the Qur'an, I know that the Qur'an does not discriminate against women. In fact, in view of their disadvantaged and vulnerable condition, it is highly protective of their rights and interests. But this does not change the fact that the way Islam has been practised in most Muslim societies for centuries has left millions of Muslim women with battered bodies, minds and souls...

"I disagree very strongly with those who regard religion as being irrelevant to development issues. Even those who concede that religion may be one of the factors to be considered in development projects do not understand the reality of present-day Muslim societies. Certainly, in the context of the Muslim world, it is essential - in my judgment - to see that Islam (in all its complexity) is not just one of the factors involved in development issues, but the matrix in which all other factors are grounded." ■

Programme expansion 'a major advance'

JEREMY HAMAND/IPPF

Dr Fred Sai, President of the International Planned Parenthood Federation and Chairman of the National Population Council of Ghana, was elected Chairman of the Main Committee at the ICPD, a role that he had also played at the 1984 Mexico City Conference and in the Preparatory Committees for ICPD. At the close of the Conference he shared his thoughts on its achievements and limitations with *Jeremy Hamand.*

"Despite all the frustrations and delays, I'm very pleased with the outcome. There's no question that we have succeeded beyond our wildest dreams getting the expansion that we required in the Programme of Action: the inclusion of the improvement of the status of women, and the need for human resource development in its widest sense, as part of the population dimension. And in programme terms for us to agree that reproductive health is the main basis from which to proceed on fertility management or family planning – however small or wide the definition of reproductive health is – is in my opinion a major advance.

"As for all the fuss about abortion, I actually welcomed that, because it raised the profile of the Conference for the world's media, and forced people to consider and discuss the real issues of the dangers of unsafe abortion.

"The Programme of Action itself has remained essentially unchanged from the document that went forward from New York. If anyone did have a hidden agenda to liberalize all abortion everywhere, it was certainly hidden, and anyway they must have realized that it could never have happened. But what those of us concerned with reproductive health have put forward is that something must be done to curb the appalling extent of unsafe abortions and the damage they are causing to women's lives and health. And to that extent the definition of the term 'unsafe abortion' that was accepted is an excellent one.

"I feel that if we can get governments to open up their programmes and care systems so that more unsafe abortions are prevented and more of those that occur are treated humanely, it will be a marvellous help to women's health.

"I'm particularly concerned about those countries where laws are reasonably liberal and yet the doctors do not interpret the laws liberally. You know, to change the situation so that abortion is not against the law is in some ways even stronger than making it legal. Under English common law, what is not specifically forbidden by law is permitted by law, and more countries should recognize the validity of this approach.

"There was not much discussion of the environment, but here again it was a major step forward to have the Conference agree that it is not only population pressure, but also consumption and lifestyle and industrialization policies that are creating major problems for the environment.

"To come to a conference like this and have people, not in anger, but in actual deliberate discussion pitching the consumption patterns of the average American and against the consumption patterns of the average Indian or Bangladeshi is quite an achievement! If the Indian and Bangladeshi were to follow the development pathways of the North American and European countries there wouldn't be a world for us to develop by the time we reach anything like the numbers being projected for the 2050s. So the wasteful consumption patterns of the North have to change, and even some of the approaches to consumption in the South as well, and there will have to be new approaches to development if environmental destruction is to be contained. And for a conference like this to think along those lines and state it explicitly, I think is a very good use of the opportunity.

"On the other hand, resources and migration were the topics which gave me my most uncomfortable moments at this conference, because when we tried to talk about resources then it seemed that most of the richer countries were not prepared to make any commitment whatsoever: even to make the guideline commitment created so many problems for them. What were they thinking of when they were saying 'we want to give better reproductive health care, we want to improve the status of women and so on through our population activities' – I mean these things cost money! To hear the shuffling of feet when it came to paying the bill was quite surprising to me.

"The other thing I found incredibly difficult to understand was the quibble about whether people who were documented migrants have the right to the reintegration of their families. Of course they have the right to the reintegration of their families! If you don't want these workers, then don't get them as documented migrants, but once they are documented migrants, families should not be separated.

"But there was some positive commitment on resources. I think the United States (in sharp contrast to its stance at Mexico City in 1984) has been exemplary at this meeting and throughout the preparatory period. One has to give credit to Tim Wirth: he has really shown US leadership and made this conference look to the United States as the country that is prepared to give increased money and technical attention in this field. The Japanese also have made it very much clearer that they intend to increase the resources they put into family planning and reproductive health programmes.

"But I have been quite upset and surprised by the stance of the European Union in this area: I would like those with access to the European capitals to try to make the European Union in all its parts understand that we are very serious in trying to get more resources into these fields so that real progress can be made." ■

'This plan can change the world'

You have crafted a Programme of Action for the next 20 years which starts from the reality of the world we live in, and shows us the path to a better reality. The Programme contains highly specific goals and recommendations in the mutually reinforcing areas of infant and maternal mortality; education; and reproductive health and family planning; but its effect will be far wider-ranging than that. The Programme of Action has the potential to change the world.

Nothing in the Programme of Action limits the freedom of nations to act individually within the bounds of their laws and cultures. Everything in the Programme encourages nations to act together for their common interest. Nothing in the Programme of Action limits the freedom of governments to act on behalf of their people; everything in the Programme encourages co-operation between governments and non-governmental organizations, among groups of different backgrounds representing different interests, and between individual women and men.

You have demonstrated once more the value of the United Nations process of consensus-building. It is long and exhaustive, it draws the closest attention to the smallest distinctions: but in the end this apparently divisive process, this activity of chopping up sentences and stitching them together again, draws us closer together. Our chopping and stitching has produced a coat of many colours; but it is a garment that will fit us all.

Your achievements in this Conference have been historic. As one writer put it: "Where else has the fundamental condition of all women, whatever their status or the state of their personal freedom been so intensely debated, or seen to be so relevant to the next century?" The Programme of Action you are about to adopt places women and men, and their families, at the top of the international development agenda. It is a population action programme that puts people first.

Energetic and committed implementation of the Programme of Action over the next 20 years:

JEREMY HAMAND/IPPF

In a final statement to the Conference, *Dr Nafis Sadik*, Executive Director of UNFPA and Secretary General to ICPD, called on the world community to make an historic action programme more than a "paper promise." Here are extracts from that statement.

- will bring women at last into the mainstream of development; it will protect their health, promote their education, and encourage and reward their economic contribution,
- will ensure that every pregnancy is intended, and every child is a wanted child;
- will protect women from the results of unsafe abortion;
- will protect the health of adolescents, and encourage responsible behaviour;
- will combat HIV/AIDS;
- will promote education for all and close the gender gap in education;
- will protect and promote the integrity of the family.

You have recognized that poverty is the most formidable enemy of choice. Poverty is not only an economic phenomenon – there is a spiritual dimension, and here too the Programme of Action will make its contribution. Drawing women into the mainstream of development will be one of the most important effects of the Programme of Action. Better health and education and freedom to plan their family's future, will widen women's economic choices; but it will also liberate their minds and spirits. As the leader of the Zimbabwe delegation put it, it will empower women, not with the power to fight, but with the power to decide. That power of decision alone will ensure many changes in the post-Cairo world...

Implementing the Programme of Action will also draw fathers more closely into the process. It will help both parents to promote and protect the interests of their children, and it will encourage them to appreciate the full value of girl children. It will help our daughters to grow to maturity in safety and health; it will remind our sons that they have too must behave with respect and responsibility, and prepare them to take their place in the world. The Programme of Action will be a powerful tool to build and maintain the strength of the family, the community and the nation.

Without resources however, the Programme of Action will remain a paper promise. We need a commitment from all countries, industrialized countries as well as developing countries, that they will take their full responsibility in this regard. Implementing the Programme of Action will help to build the basis for sustainable development, for economic growth with equity and justice. ■

"The benefits of policy change are so great that we cannot afford not to take them... Egyptian calculations show that every pound invested in family planning saves 30 pounds in future expenditures on food subsidies, education, water, sewage, housing and health."
– *Gro Harlem Brundtland, Prime Minister of Norway.*

"The only way to fight unwanted and unnecessary abortion is to provide all women everywhere with quality reproductive health care, including contraception and, if indispensable, safe abortion".
– *Halfdan Mahler, Secretary-General, IPPF*

Global warming

Slower population growth, in the next century, could make a huge difference to the threatened global warming of the planet, Paul Harrison told a meeting organized by IUCN at the NGO Forum.

Based on a new analysis of the central projections of the impact of greenhouse gas emissions under various circumstances by the International Panel on Climate Change (IPCC), Harrison said that it was possible to calculate the relative impact of different population growth projections.

With medium population growth, carbon emissions would reach 32 billion tonnes, by the year 2000, when the world population would be 14.5 billion: ten times the sustainable limit.

But with low population growth, peaking at around 8 billion, carbon emissions would be only 11.4 billion tons by 2050. As population began to decline after that point, technological change would compensate for the effect of a continued growth in incomes and keep emissions at around 11 billion.

Slowing population growth by itself will not be enough, said Harrison, nor would technological change by itself. Even with fast changes in technology, greenhouse gas emissions would still rise above today's level and remain three times higher than acceptable.

The only solution that brings emissions down to a sustainable level by 2100 AD would be a combination of slow population growth and rapid technology changes, with determined action to shift out of fossil fuels and to improve energy efficiency. This would mean human development with an emphasis on women would have to be given a high priority to ensure that family size falls rapidly and that poverty can be alleviated.

■A new IUCN booklet on *Population, Resources and Policies for the 21st century* is available from IUCN's Communications Division.

What problem?

A lack of understanding about Egypt's population policy at all levels of government has been revealed by a major research project, the findings of which were given at the NGO Forum.

A research team, led by Dr Saad Ibrahim, Professor of Sociology at the American University in Cairo, found that only four of Egypt's 18 Cabinet members believed that the country had a population problem. Even when presented with the evidence, fewer than half would agree.

Only about half of senior officials questioned thought population was matter for concern. Two out of three field workers did not mention it, or believe it was a problem.

The research was part of a four-country study into the history and operational success of population policies, organized by the Population Council.

Analysis needed

There is an urgent need for new research into the neglected links between population and development, Paul Demeny, Distinguished Scholar with the Population Council, told an audience in Cairo.

Of 1,100 population research projects funded by USAID in 1992, in a programme costing $284 million, only two touched on the impact of rapid population growth on economic development, he said.

Giving one of a series of IUSSP lectures at the conference, he said the Programme of Action tended to abandon the long-held platform for family planning programmes – that they served demographic objectives, which would in turn promote economic development, as well as private needs.

But, by focusing only on the private needs of clients, it meant family planning now had to compete with all the many other welfare needs of society.

At the same time "the development landscape is radically different from the picture prevailing 30 years ago" he said. "A reinvigorated analysis of population-development relationships is urgently needed if policy makers...are to be provided with better advice than they can be given today."

More people

Nine scenarios for population growth, developed by the International Institute for Applied Systems Analysis (IIASA), were presented to the NGO Forum.

These indicate that by 2030 world population is likely to increase by at least 50 per cent and maybe even double in size, with 85 to 87 per cent of people living in today's developing countries.

The central scenario projects population totals higher than those predicted by the United Nations medium projection. World population under "the most reasonable guess" will be around 9.5 billion in 2030, says IIASA, rising to 11,238 in 2050 and 12.6 billion by 2100. By then sub-Saharan Africa's population will have grown from 550 million to 2,700 million.

WWF policy

In a special publication for ICPD, the World Wildlife Fund for Nature (WWF) outlined its policy on population growth and the environment and called for a genuinely integrated approach.

"There is growing awareness" it says, "that poverty, population change, economic inequities, consumption and production patterns, and environmental threats are so closely interconnected that none of them can be considered in isolation."

WWF says it is increasingly taking demographic pressures into account. For instance, at a WWF-Madagascar community meeting, local people identified population as one of the major factors pushing people to cultivate steep forested mountainsides. The result was the introduction of a locally appropriate population component in the conservation work.

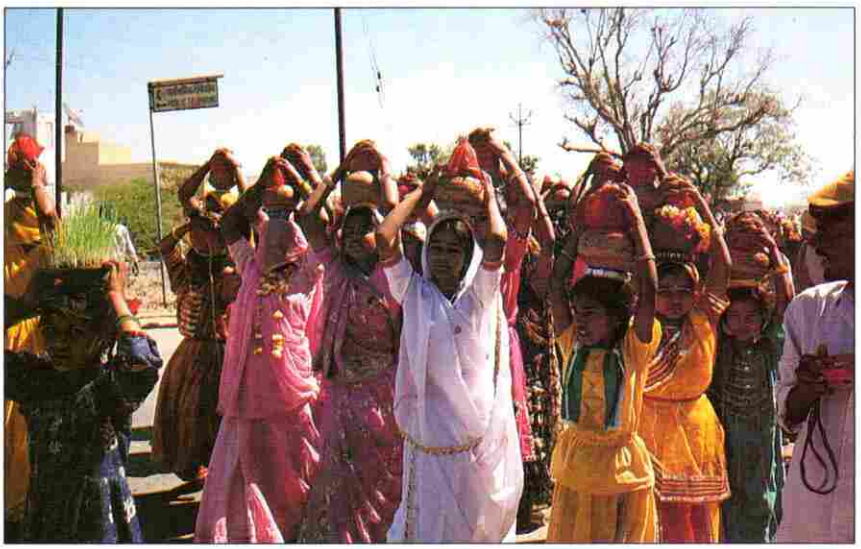
Families in focus

In a recent issue of *People & the Planet* (vol. 3, no. 2), articles by Jodi Jacobson and Judith Bruce (*The family: myth and reality* and *Policies for today's family*) were partially excerpted from drafts of a forthcoming Population Council book provisionally titled *Families in Focus: New Perspectives on Mothers, Fathers and Children*.

The first of these articles included data and concepts developed by Population Council Senior Associate, Cynthia B. Lloyd, to be presented in the book. *Families in Focus* is scheduled for release in late 1994. To receive a copy, contact the Population Council's Office of Publications, Circulation Department (tel: 212-339-0514; fax: 212-755-6052) or write to Ann Leonard, The Population Council, One Dag Hammarskjold Plaza, New York, NY 10017, USA. ■

FILMS

Apocalypse postponed



In 1992 Dr June Goodfield presented the two-part documentary *The Cosmic Joke*, a widely acclaimed double bill which explored the linked issues of population, culture and resources with a focus on Indonesia, Mexico, Morocco and Ghana.

Now June Goodfield is back. For her latest film, the intrepid 65-year old traveller who fronted *The Cosmic Joke* stays behind the camera with director Michael MacIntyre and hands the presentation duties to narrator Tom Conti. But if the delivery style has changed the song remains the same. *Apocalypse Later* returns to the themes of population growth, resources and family planning – this time with the focus on China and India.

In a land of 17 recognized languages, 963 dialects and many faiths, democracy is the glue which holds the Indian people together. But as Mrs Ghandi discovered at some political cost, slowing population growth in the world's largest democracy is far from easy. When India embarked on a draconian family planning programme under her direction, the outcry was enough to silence the politicians for a decade.

Despite success in the smaller states of Kerala, Goa and Tamil Nadu, the real challenge is in the 'Hindi belt' states which account for 40 per cent of the population. Here, families are large and contraception take-up is low. Those who volunteer for sterilization tend to already have big families. The message of the film is that if the government is to get a grip on the problem, it's going to have to give people more choice and improve local healthcare services.

Complex though the situation is, one thing is agreed upon: the need to educate India's women. "In a democracy," argues Ashish Bose of the Institute of Economic Growth, "any compulsion factor should operate in respect of education, not population control." The priority, he suggests, must be to restrain child marriages, to proscribe child labour and to send more people – especially girls – to school.

In China on the other hand, the Communist government has always recognized the role of education in population management. From the outset, it sent every girl and boy to school. In the wake of strict laws preventing child marriages and steps to improve the status of women, the size of Chinese families dropped dramatically.

In all kinds of ways, the film shows that Chinese women are better off than their sisters in India – in the education they receive, in the status and greater personal freedoms they enjoy, in their chances of getting paid work. Though few women are prepared to denounce China's one-child decree as coercive, evasion is systematic and widespread. Meanwhile, in Delhi's corridors of power, women's groups are finally making themselves heard.

"The government is trying to control what it considers to be a demographic crisis by coercive methods," says Brinda Karat of the All India Women's Democratic Association. "It's view seems to coincide with that of aid agencies or western ruling circles which are trying to say the over-populated Third World is responsible for damaged global ecosystems."

That is not everyone's assessment, as the varied views aired in this film make clear. What is widely agreed is that as rural resources in both India and China come under increasing pressure, migration to the cities becomes an integral part of the population problem. It is here in the metropolitan slums that dignity and stoicism will be tested as never before. Here the film implies, apocalypse lurks. ■

Barry Hunter

■ Apocalypse Later *(50 mins) is a production by Antelope, 2 Bloomsbury Place, London WC1A 2QA: Tel: +44 (0)71 209 0099. TVE is making the film available to television stations and NGOs in the developing world. It will be available in English, French and Spanish versions. Contact TVE, Prince Albert Road, Regent's Park, London NW1 4RZ, UK. Tel: +44 (0)71 586 5526. Fax: +44 (0)71 586 5526.*

Sex, Sin and Survival

Now available to non-governmental organizations and television stations worldwide, is the one-hour population film previously listed as **Conspiracy of Silence** and now re-titled **Sex, Sin and Survival**.

Produced by North South Productions for the British Channel Four TV station and broadcasters in Scandinavia, this state of the art documentary features a worldwide exploration of the issues by British environmentalist, Jonathan Porritt.

Porritt visits various successful population programmes and examines the role of churches, women's groups and governments, to ask the question why the pent-up demand for family planning services is still not being met.

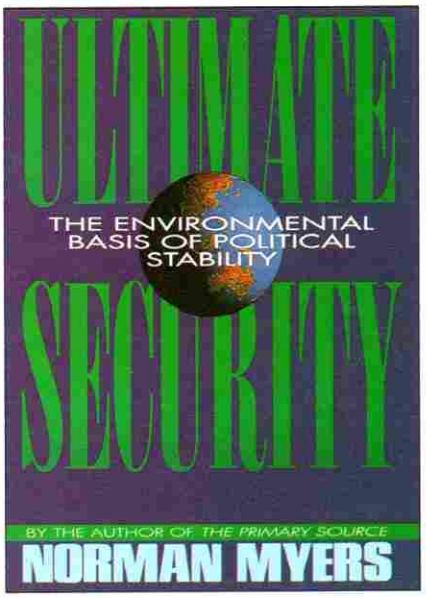
This is an outspoken, but balanced, review of a complex subject, told with moving interviews of women in the front line of the reproductive revolution. It has been produced in association with UNFPA, IPPF and Population Concern. ■

■ *Contact North South Productions, 1 Woburn Walk, London WC1H 0JJ, UK. Tel: +44(0)71 388 0351. Fax: +44(0)71 388 2398.*

BOOKS

Global problems for a parochial world

Ultimate Security: The Environmental Basis of Political Stability
Norman Myers
W W Norton, New York and London, 1993.



With deforestation, water shortage, ozone depletion, 'greenhouse' gas emissions and runaway population expansion, the time for complacency about the natural world and its resources has long passed. The health of the natural environment is a global problem. In a memorable parody of the economist's definition of a public good – a commodity or service which is non-excludable and non-rival – Myers describes global warming as "a problem to which all nations contribute, by which all will be affected, from which no nation can remotely hope to insulate itself, and against which no nation can deploy worthwhile measures on its own".

Awareness of environmental mismanagement is old hat. But *Ultimate Security* tries to be more than a reminder of familiar mistakes and problems. Competition for natural resources has always been a source of conflict, but Myers suggests that traditional, state-centred notions of military security are inadequate and that the 'enemy' is now less the rapacious neighbour than the collapse of the world's natural infrastructure.

The message is urgent and persuasive, but does it work? National security has never been about "fighting forces and weaponry *alone*" and the "standard response" to threats has not always been military force. The biggest fly in the ointment, however, is the notion of "global citizenship", and the idea that "the community of mankind" is "finally becoming a single community". Nothing could be further from the truth: in spite of Myers' frustration, the world *is* a parochial, mean place and is likely to remain so.

For most of the world, 'ultimate' security is still primarily a military matter; secure against military threats from a neighbour, there may be time, space and resources to think about 'luxuries' such as the environment. The overwhelming difficulty which this book faces is that environmental problems may be describable in global terms, but have to be tackled on some lesser level.

For the present, therefore, *Ultimate Security* is a policy document in search of an agency, which it may never find. But Myers knows that the process of change can only be incremental, that the international system can only be changed from within. The appeal of this compelling book is that it functions both as a statement of a global ideal and as a reminder that for reasons of security and self-interest, states are advised to address these environmental crises.

Paul Cornish

Dr Paul Cornish is Research Fellow on the International Security Programme, Royal Institute of International Affairs, London.

Tourism and conservation

Ecotourism: The Potentials and Pitfalls
Elizabeth Boo
World Wildlife Fund, Washington, DC, 1992, 2 volumes.

Can ecologically oriented tourism protect natural resources, general foreign exchange, and provide employment for local people? A two-volume study of Belize, Costa Rica, Dominica, Ecuador and Mexico cautiously says 'yes', subject to several conditions.

Provision must be made for respecting the 'carrying capacity' of natural sites by somehow limiting the number of visitors and providing for their litter. Local people must have a say in the management of ecotourism and the operation of tourist enterprises. Resources must be invested in the access to and amenities at natural sites.

What is missing in much of the enthusiasm for ecotourism is hard-nosed empirical data. Do so-called ecotourists actually spend more on local goods and services and less on imports than other kinds of tourists? Is their behaviour more compatible with indigenous cultues and values? Do hikers in the Himalayas generate more foreign exchange and jobs than visitors to luxury hotels in Kathmandu? What is involved in recruiting ecotourists? How do ecotourists differ from visitors who divide their time between beaches, outdoor activities and historic sites?

Dozens of countries around the world, from the Caribbean to the Indian Ocean, are climbing aboard the ecotourism bandwagon. The US World Wildlife Fund has provided a useful first cut at analysis and case studies of a fashionable trend calling out for in-depth research.

Aaron Segal

Dr Segal is Professor of Political Sciences at the University of El Paso, Texas.

Population debates

The New Politics of Population
Jason L. Finkle and C. Alison McIntosh (editors)
Population and Development Review, Supplement to Vol 20, 1994, Population Council

The politics of population planning have changed over the past 30 years. Earlier we saw a three-way conflict between the Western 'population controllers' urgently trying to defuse the population bomb; the USSR and the Marxists, who claimed there was no problem outside of capitalism; and the Roman Catholic Church, which disapproved of artificial birth control.

Today, the 'controllers' have reduced their urgency but have moved to link population with development, environment and women's issues. The Marxist edifice has collapsed, eliminating the power base of its population position. And the Church, at least for the moment, is attempting to restore a weakened central discipline with a concerted affirmation of the traditional doctrine against abortion and contraception. Thus although there has been change, there remains a high level of controversy.

This is the central message of this rich, scholarly and thoughtful analysis, edited by Jason Finkle and Alison McIntosh. Few have followed the politics of population longer, more carefully, or with greater insight than these two. Here they bring us an excellent collection of articles, arising from a 1990 conference in Bellagio.

Two of the issues covered will be of special interest in the aftermath of Cairo. Charles Keely debunks the idea of the Roman Catholic Church obstructing population policies, and he is led instead to ask why the Church did not make a concerted campaign to affect national population policies after Humanae Vitae in 1968. Ruth Dixon-Mueller deals with modern feminist movements in Brazil, Nigeria, and the Philippines. Both provide useful background analyses, but it would be interesting to hear what they have to say about the renewed Vatican attack on population policies, especially through the attack on the feminist movement.

Gayl D Ness

Gayl Ness is Professor of Sociology and Professor of Population Planning at the University of Michigan. He is presently on secondment as Population Fellow for IUCN in Gland, Switzerland.